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ORIGINAL ARTICLES

THE USE OF ACIDIFIED MILK IN INFANT FEEDING*

BY C. K. JOHNSON, M.D.

THE first reports of feeding infants soured milk came from Holland where buttermilk was used for feeding sick infants with good results. Germany followed with reports of using soured milk with the addition of cane sugar and wheat flour and the mixture boiled. Later this was used to a considerable extent in this country with good success as reported by several observers. I have personally used this method of feeding with a few infants with gratifying results.

As many objectionable bacteria developed during the natural process of souring many pediatricians have used boiled milk, then adding a culture of lactic acid bacilli, the mixture being kept at incubator temperature for a definite time. I have many times used this method by placing the mixture in a thermos bottle for twenty-four hours.

Marriott in 1919 reported good results by feeding marasmic infants buttermilk with the addition of karo syrup up to 10 or 12 per cent. This method later received favorable comment by different observers. In 1923 Marriott reported his results with the use of lactic acid to acidify milk and karo added. His original formula was as follows: Cow's milk was sterilized by boiling five minutes, the milk was then cooled and to each pint one dram of lactic acid U S P is slowly added from a dropper with gentle stirring and two tablespoons of karo syrup added.

The theory upon which this feeding is based has been well described in the literature by several men including Faber, Marriott, Nuller, Babbott and Gleich. Their experiments show extremely similar results. I will quote Gleich as representative, he using the hydrogen ion concentration to determine the acidity of the stomach at the height of digestion, this being represented as Ph. With normal breast fed infants the Ph value was 3.75. For sick infants 4.75. With undiluted cow's milk the average for sick and well infants was 5.35 and 5.3 respectively, while the infants fed on lactic acid milk the Ph value was 3.75 with normals and 4.1 with sick infants. From this he concludes that gastric digestion in infancy is very limited, this evidently being due to a limited

acid secretion, the food passing quickly into the intestine. It is evident that lactic acid stimulates the gastric, biliary and pancreatic secretions. The excess of alkaline or buffer substance in cow's milk combines with the gastric hydrochloric acid, neutralizing it and limiting digestion. The addition of lactic acid overcomes this buffer action or acid combining power of cow's milk and allows digestion similar to that when breast milk is given.

Karo is used in the same way as other sugars, two level tablespoons being an ounce and reckoned as 120 calories. Karo contains a high percentage of dextrins not readily fermentable and thus less liable to cause diarrhea even when quite high percentages are used. I have found that when a considerable amount of lactic acid milk is to be made one may by diluting the acid with a little water and then pouring this into the cold milk, agitating with an egg beater get very satisfactory results and time is saved.

I am now using forty drops of acid to each pint of milk as has been recently advised and my results are equally good.

Marriott and Davison in 1923 reported that at The St. Louis Children's Hospital they had fed practically every infant admitted over a period of two years with lactic acid milk with very satisfactory results.

Only those infants who could not be treated at home or in clinics were admitted. Their ages varied from two days to one year and included cases with pyelitis, osteomyelitis, tuberculosis, meningitis, dysentery, and congenital syphilis. Many of these infants were under weight and more than 50 per cent. were under three months of age. The average number of calories given was seventy per pound, seventeen receiving as high as ninety calories. Vomiting and diarrhea were seldom seen and none died of gastro-intestinal disturbance from overfeeding. In 1919 the mortality for marasmic infants at this hospital was 78 per cent. In 1923 the second year of lactic feeding the mortality was 26 per cent. At the present time lactic milk is being used extensively in this country. Various other ways have been tried to acidify milk as with vinegar, lemon juice and hydrochloric acid, but no method has given satisfaction equal to the use of lactic acid.

At one time some writers advised against the

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use of lactic acid milk with very young infants but more recently it has been recommended as next to breast milk for premature infants.

I have for some time used the acidified milk in my private practice and in clinic and institutions with most pleasing results as my charts will show. At a foundling home where all new born infants are breast fed in part at least, the first two weeks of life if possible, then gradually change to entire artificial feedings the use of lactic acid milk has gradually increased so that at present nearly 100 per cent. of these infants receive this type of food. At first the occasional infant that was not doing satisfactorily on whole milk dilutions with sugar added was changed to acid milk with excellent results. Some extremely bad feeding cases responding to the change. At present I am using the following routine: All newborn infants as soon as they seem to get insufficient breast milk are offered one-half ounce of the acid milk after each breast feeding, the three-hour interval being used. As soon as more will be taken the amount is increased until the infant is on entire artificial feeding by two or three weeks of age. These infants frequently weigh five pounds at birth, many of the mothers being very young. With these young infants I have found that we get better results by beginning with one tablespoon of karo to the pint of milk, later slowly increasing to two tablespoons. Many of these infants have either held their birth weight or have gained the first week of life. A group of 18 new born infants with an average birth weight of 6½ pounds have been followed over a period of two months and the average daily gain was .78 ounce for the entire period. The mothers leave the home so that continued breast feeding is impossible. If these infants were not to be changed to artificial feeding one should be careful with this method of complementary feeding at this age or the breasts will fail to secrete from lack of stimulation and the infant securing his ration easier from the bottle, the feeding will soon be entirely bottle. In our routine feeding cases we should always endeavor to keep the infant on the breast when possible. During the past year there have been fifty infants born at this institution and

there have been five deaths, three of these were premature infants, none living over 36 hours, and two died of influenza. There were no deaths from gastro-intestinal disturbance.

I have fed a few premature infants with acidified milk and feel that it is a good food when breast milk is not obtainable. The high calorie, small bulk feeding being especially advantageous with these small infants.

The infants fed on lactic acid milk have developed unusually well, being firm, active, and with a clear skin, comparing well with breast-fed infant. I have used lactic acid milk with about all the usual types of formulae. Many times when there is a tendency to loose stools, where one would usually reduce or omit the sugar temporarily I have simply ordered a few drops of acid added to each feeding as fed, finding the stools improve and a reduction of calories not necessary. Vomiting rarely occurs with the acid milk feeding and many infants that are vomiting their feedings with other mixtures are relieved of this symptom when the acid milk is given.

I have during the past few months had very satisfactory results by using lactic acid with Dryco, where this was not well tolerated without the acid. One point that I believe should be stressed with the general practitioner who has many infants under his care, and this is that an infant much under weight requires a much higher calorie feeding than a normal infant of the same weight. With this in mind one would not be tempted to change the formula as often simply because the infant fails to gain, the digestion being good, but he would slowly increase the food value until such time that a gain was possible.

One should use lactic acid milk knowingly, varying it as the need of the individual infant indicates. The fat may be lowered by removing some of the cream or the sugar or starch may be varied as to kind and amount used. Do not let me leave the impression that acidified milk is a panacea for infant feeding as it is not well received by all infants. I am still using whole milk dilutions, boiled with carbohydrate added as a general rule with satisfactory results but do feel that a knowledge of the use of lactic acid milk is of great assistance.

STREPTOCOCCIC INFECTION OF THE ANTERIOR ANGLE OF THE NARIS

BY DOUGLASS W. MONTGOMERY, M.D., AND GEORGE D. CULVER, M.D.

INTERTRIGO is a streptococcal infection that occurs in angles, as at the corners of the mouth where it is called perleche, behind the ears, under overlapping skin as under the breasts, and in the suprapubic, inguinal or internatal folds in fat people. Because of the favoring circumstances of warmth, moisture and occlusion from the air the infection if untreated may reside in these locations indefinitely.

One of the favorite situations for this infection is the sharp anterior angle of the naris. Just above this there is a fossa occupying the tip of the nose, which is also of great importance in the treatment of this disease. This malady is not alone important in itself, but also from the results that may flow from it. While studying in Vienna many years ago Kaposi drew the attention of one of us to it as one of the frequent

causes of red nose, because the local congestion, enduring for a long time, finally causes permanent dilatation of the cutaneous bloodvessels. Whitfield also not long since spoke of this as a cause of redness of the nose. Furthermore, from this center a streptococcic infection may spread out from time to time over the nose or face, giving rise to recurrent erysipelas, which in time may cause great facial deformity.

As a matter of fact facial erysipelas almost always begins in the center of the face, at the inner angle of the eye, in the nasolabial groove, or in the upper lip. It may also start out from the meatus of the ear, but only rarely does it occur primarily on the forehead, on the chin or in the middle of the cheek. All the above named recesses, viz: the inner corner of the eye, the anterior angle of the naris and the meatus of the ear are favorite permanent residences for streptococci, and as for the lip the erysipelas here emanates from a streptococcic chilitis in which the cracks form the ports of entrance of the virus. It is the large thick swollen lip of the scrofulous.

Just now we have a patient who for long has had a naryny streptococcic infection, and who presumably infected a sebaceous cyst on the back of his neck from this source.

There are two situations in the face decidedly hidden from view, under the tip of the chin and under the tip of the nose. In order to view the latter it is necessary to tip up the nose, and this is probably the main reason why this infection at the anterior angle of the nares so frequently escapes attention. As far as the submental region is concerned not long ago we here found an occult chancre.

The treatment for this kind of naryny streptococcic infection is simple and effective, and consists in the application of an ointment containing either calomel or oxide of mercury. The warm salt solution, either of the blood serum or of the secretions of the nostril, acts either on the mild chloride of mercury or on the oxide, forming nascent bichloride of mercury, which is an excellent streptococcicide. While the application of this ointment constitutes the principle of the treatment; attention to details is also necessary if success is to be attained in individual cases.

THE COMPOSITION AND THE APPLICATION OF THE OINTMENT

We usually order an ointment of six per cent, or a half dram to an ounce, as follows:

R		
Hydrargyri oxid. rubri	—	5ss
Lanolini	—	—
Vasellini	aa	5ss

This ointment should be well triturated.

Before applying the ointment it is often well to clip the long stout vibrissae, and then the

nostril should be well soaked with boric acid solution. The best way to do this is to add a heaping teaspoonful of boric acid powder to a glass of water, and keep this solution warm in a tin receptacle over the flame of a spirit lamp. Dip pledgets of cotton in this warm solution and introduce them into the affected nostril, changing them frequently. Care should be taken to pack the pledgets well into the deep fossa behind the tip of the nose. After a thorough soaking to soften well all crusts and the epithelium, the ointment may be introduced, taking care to massage it thoroughly into the angle and into the fossa, for we have to do with a parasite which is not alone on the surface of the skin and mucous membrane, but also frequently lies in its depth, as it is anaerobic.

When this angle is found affected, and is efficiently treated, it is sometimes astonishing how quickly an erysipelas of the face will subside.

The following is an example of how complicated the problem may be.

On January 30, 1924, a woman fifty-three years of age consulted us on account of redness and swelling at the anterior angle of the right naris. The disease was complicated by a nasal deformity. The septum was bent so that the septum and the ala ran for a short distance almost parallel, and came together at a very acute angle. At the bottom of this angle there was the characteristic crusted crack. The septum was also red and swollen downwards, so that it formed a noticeably disagreeable feature. The sebaceous glands of the swollen septum were very prominent, and could be seen as minute yellow dots. The inflammatory trouble had been present for seven years.

At first we employed boric acid solution and calomel ointment, with an amelioration of the symptoms, but still there remained a crack and some thickened epithelium. In order to get rid of this we first employed radium, well screened, and then we cauterized the crack, first with trichloroacetic acid and then with acid nitrate of mercury. With this last we got quite a stiff reaction, after which the lesion healed. In cases with much thickening it must be taken for granted that the streptococci lie deep in the tissues, and until the induration disappears the disease remains.

In another patient, a man, the thickening was quite pronounced, and had to be reduced by a radium reaction and by cauterization with trichloroacetic acid, and finally with nitrate of silver, before we got healing under oxide of mercury ointment.

Sometimes the naryny infection is only a part of an infection of the whole lacrymal tract, and then the treatment must be carried on from above downwards.

When the streptococcus has its chief seat in the antrum of Highmore, this must be treated

before a permanent cure can be effected. The narinary angle may itself constitute the original focus, but no matter where the original focus

may be, it is important for the dermatologist to recognize, and to treat, the trouble in the anterior angle of the naris.

NOVASUROL: AN EFFECTIVE AGENT IN RELIEVING THE ASCITES COMPLICATING CIRRHOSIS OF THE LIVER

BY J. GORDON ANDERSON, M.D.

OF the various complications arising from cirrhosis of the liver, not the least trying is the marked ascites which often accompanies it. Hence, in the absence of any known cure, any agent which affords continued relief from this ascites, without sapping the strength of the patient, merits our attention. The old method of

same time not to impair the patient's general strength.

ILLUSTRATIVE CASE

History and examination. A man (A.B.), aged sixty-one years—a chronic alcohol sipper—came to me in August, 1925, complaining of dyspnea, and the markedly increasing size of his abdomen. He had first noticed these symptoms eight months before, and had consulted a physician who treated the case with liberal daily catharsis (Epsom salts) for six weeks. Temporary improvement followed, but the treatment left the patient so exhausted that its continuance seemed inadvisable. The following month, he entered the Rhode Island Hospital, where abdominal paracentesis was done, and six gallons of ascitic fluid was removed. Marked reaction—weakness, vertigo, and gen-

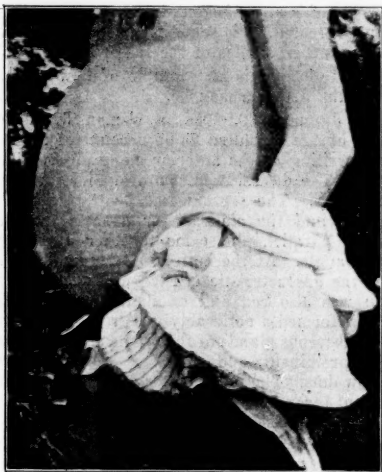


FIG. 1. Before treatment with novasurol. Note that the lower intercostal spaces are obliterated.

extreme purging with salts left the patient thoroughly exhausted; the relief was inconstant and usually very temporary. The Talma-Morison, Talma-Drummond and the Drummond-Morison operations, although attended by satisfactory results in certain cases, carry a high mortality rate. In unselected cases Greenough quotes it as being as high as 29.5 per cent within thirty days; in carefully selected cases, slightly more than a quarter of this. The value of early operation in cases in which the patient's condition warrants radical treatment is uncontroverted, but a host of cases remain in which such treatment entails a risk which is scarcely fair to the patient. In such cases we must rely on medicinal treatment. Of the various diuretics which have been tried, novasurol seems to afford the most striking and lasting results locally, and at the



FIG. 2. Before treatment with novasurol.

eral debility—followed the decompression, and three weeks later, the abdomen began to refill. In July, 1925, the patient again submitted to paracentesis, and two gallons of fluid were removed. However, within two weeks, abdominal distention again recurred, and at the time he consulted me was marked, (Figs. 1 and 2)

obliterating the costal margins to such an extent that palpation of the viscera was impossible. The hemoglobin was 80 per cent; red blood cells numbered 4,900,000; white blood cells, 4,800. Urinalysis revealed occasional red blood cells, white blood cells, and hyaline casts. The specific gravity varied between 1013 and 1019. The phthalein return following intramuscular

The ascites is comparatively negligible, the abdominal circumference now being 93 cm. (Figs. 3 and 4.)

Comment. In this case, the patient's general condition and his low liver function seemed to contraindicate operative procedures. The novasurol, with comparatively little irritation to the kidneys (on which its chief action is evident), increased the elimination of both solids and fluids, and thus relieved the ascites and obesity. There was none of the collapse which had followed paracentesis in this case. Possibly this collapse was due to too rapid decompression. It is too early to say how lasting the relief will be, but it has already been more prolonged than that following any other mode of treatment.

SUMMARY AND CONCLUSIONS

Of the various medicinal means which have been used to relieve ascites in cases of cirrhosis of the liver, intravenous injections of novasurol are not only the most effective, but moreover do not impair the patient's general strength, of which he usually has little to spare. It is also less irritating to the kidney than other diuret-

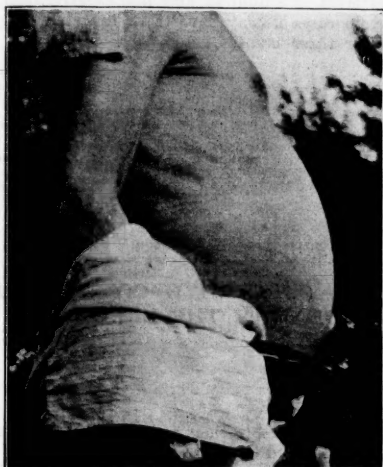


FIG. 3. After treatment with novasurol. Note that the ribs and interspaces are plainly visible.

injection was 45 per cent for the first hour, and 15 per cent for the second hour. Liver functional tests indicated a Grade 3 dye retention. The patient's weight was 180 pounds; the abdominal circumference, 114 cm.

Treatment with novasurol. A preliminary subcutaneous injection of 0.6 c.c., to determine any idiosyncrasy to the drug, was given. No untoward reaction being produced, the patient was given nine injections at intervals of four to six days, during the next month,—a total of 12 c.c. of the drug being administered. Marked diuresis followed, an average of 4 liters being passed in the first twelve hours, and a liter every twelve hours thereafter. During the treatment, the patient was kept on a low fluid intake with 90 grains of ammonium chlorid, daily. Whenever gastric disturbances were evident, the chlorid was omitted. The abdominal circumference was reduced 15.6 cm., and the patient's weight, sixteen pounds. The dyspnea, which was entirely mechanical, disappeared, as did physical signs of fluid. The treatment was therefore discontinued.

Two months later, at the time of this paper going to press, the patient is in better health than at any time since the onset of his malady.



FIG. 4. After treatment with novasurol.

ics. In cases in which novasurol alone fails to produce a satisfactory diuresis, the additional use of ammonium chloride often brings about the desired result.

A preliminary subcutaneous injection of novasurol, to detect any possible idiosyncrasy to the drug, is essential, and will usually eliminate the possibility of later untoward results. Patients must, however, be watched closely for

salivation and other mercurial symptoms. A low water intake, and a diet with a very low salt content should be insisted upon during the treatment.

Treatment with novasurol is advocated for patients whose general condition is poor, who suffer from advanced cardiac disease, and in whom the functional activity of the liver-cells is greatly reduced. It is not intended to replace or postpone operation in cases in which the indications for this more radical form of treatment are favorable. As Moynihan has pointed out, in cases in which the liver is enlarged, rather than atrophied, and in those in which perihepatitis is present, operation should be undertaken as early as possible, in order that the compensatory hypertrophy of the liver cells, which is probably one of the

causes of the improvement in the patient's condition, may have time to develop.

A case in which the effects of treatment with novasurol have been most satisfactory is reported. Excellent results in similar cases have been reported by Rowntree, and it was at his suggestion that the treatment just described was instituted. It should be understood that the treatment is palliative and not curative. In certain cases it may have to be repeated every two or three months.

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AN UNUSUAL CASE OF HYPERGLYCAEMIA (1.71%) WITH COMA; ASSOCIATED WITH AN ABSENCE OF ACETONE IN THE URINE. REPORT OF A CASE

BY WILLIAM P. ARGY, M.D.

BECAUSE of the coma, not associated with ketonuria, the unusual hyperglycaemia and the marked enlargement and extensive degeneration in the pancreas, this case seems to be of unusual interest.

REPORT OF CASE

The patient, a colored male, aged 33, was brought into the hospital in profound coma. His family and past personal history was irrelevant. For six months prior to admission he suffered with an abnormal craving for carbohydrates, polydipsia, polyuria and constant fatigue. There was a gradual progression of his symptoms and for ten days before admission he found it necessary to confine himself to his bed. On about the fifth day he was seized with an attack, manifesting itself by nausea, vomiting and severe epigastric pain. Under a low carbohydrate and high fluid regime he became markedly improved, but two days prior to admission he made a lemonade, sweetening it with one pound of cane sugar and consuming all in one draught. Within a few hours, there was a recurrence of his former symptoms and gradually he merged into the profound comatose state as found upon admission.

Examination: The patient was a well developed and well nourished male in deep coma. The respirations were of the Kussmaul type. There was congestion in the lower lobes of both lungs. The skin was dry and there was a general flaccidity of the muscles, associated with a loss of

reflexes. The respirations were 38, the temperature 98.8 F and the pulse was 130.

The urine was acid in reaction. The specific gravity was 1.024. It contained a large amount of albumen, mucous shreds, epithelial cells and many hyaline casts. There was a large amount of sugar but there were no evidences of acetone or di-acetic acid nor could any be found after repeated examinations.

The white blood cell count was 10,000 with a normal differential count. The non-protein nitrogen of the blood was 152 mg. per 100 c.c. of blood. The blood sugar was 1714 mg. per 100 c.c. of blood.

The patient was immediately given 500 c.c. of normal physiological saline solution, intravenously, together with 50 units of insulin (II Lilly). The blood sugar at the end of one and one half hours was 895 mg. per 100 c.c. of blood. He was then given 20 units of insulin every three hours for four doses, but at no time did he show evidences of regaining consciousness, other than reacting slightly to pain stimuli, nor were there evidences of a transposition to hypoglycaemic shock.

Associated with the Insulin treatment, the patient was given Digifolin grains 1½, subcutaneously, every four hours; physiological saline solution by proctoclysis and gastric lavage with a 5% solution of sodium bicarbonate.

He died about thirty six hours after admission and at the time of death, his blood sugar was 582 mg. per 100 c.c. of blood; his temperature

102 F; his pulse 100 and his respirations 24. There was also a large amount of acetone in the blood and spinal fluid.

*Post Mortem Examination: There was a hypostatic congestion of the lungs with evidences of bronchopneumonic invasion; a chronic parenchymatous and diffuse nephritis; a focal necrosis of the liver with fatty degeneration; a cerebral edema and a chronic interstitial fibrosis of the pancreas.

The pancreas was enlarged, 33 cm. in length, was firm on palpation, fibrous and markedly lobulated. Histological section revealed a dense fibrosis, which amounted to conspicuous scars in numerous areas. In its distribution, the fibrosis tended to isolate many of the acini and the new tissue formed heavy capsules about the islands of Langerhans. The latter were deficient in number and presented a fibrous invasion. The cells were cloudy but the cytoplasm was apparently intact. Stains failed to demonstrate lipoids to any extent.

In the kidneys there was an advanced fatty degeneration and necrosis throughout, involving mainly the high type of epithelial cells. Only the epithelium of the collecting tubules was normal. The glomeruli were swollen, with little cell infiltration, but marked degeneration.

COMMENT

Diabetic coma without ketonuria is rare, although cases have been reported. Feinblatt¹

*From the Pathological Unit of the Army Medical Museum, Washington, D. C.

cites instances reported by Revillet, McCaskey, Rosenbloom and others, adding one that had come under his observation.

Joslin² has shown that the excretion of acid bodies into the urine is impaired in cases of diabetes associated with nephritis. Due to the extensive renal pathology this may explain the absence of ketonuria in this instance.

Careful search of the literature revealed no evidence of such an increased blood sugar concentration. Joslin² reports an instance where the blood sugar was 1.49%. This case was also complicated by nephritis. By continuous intravenous injection of a 40% solution of glucose, with the maintenance of a low fluid intake, Woodyatt⁴ has caused blood sugar concentrations as high as 2.38%.

SUMMARY

A case is reported of coma, in a colored male, aged 33, with typical symptoms of diabetes mellitus, existing over a period of six months and ending in death. It is marked by an absence of ketonuria, a high blood sugar concentration and a large amount of acetone in the spinal fluid.

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INTERSTITIAL PREGNANCY WITH REPORT OF A CASE

BY A. S. TROUPIN, M.D.

Interstitial pregnancy is the rarest form of ectopic gestation with the exception of ovarian.

Rosenthal collected 1324 cases of extrauterine pregnancy from the literature up to 1896, of which 40 cases, or about 3%, were of the interstitial variety. In the gynaecological clinic of Johns Hopkins there have been 304 cases of ectopic pregnancy operated on, only 2 of which are classed as interstitial.

Of 1547 cases of ectopic pregnancy studied by Wynne 18 cases, or 1.16%, were interstitial. Martin found 1 case of interstitial pregnancy in 77 cases of ectopic gestation. Oastler found 2 cases in 106. Foskett found 1 case in 117. Tait found only 6 specimens in the English Museum up to 1890.

Etiology. The etiology of interstitial pregnancy is practically that of ectopic gestation. Inflammatory lesions of the tube in its interstitial portion being probably the most common cause.

Donald McIntyre reports a case of interstitial pregnancy in the right side of the uterus 2½ years after a salpingo-oophorectomy was

performed on the same side for inflammation of the tube and ovary.

Varieties. Klebs divides interstitial pregnancy into 3 groups according to the location of the imbedding site:

1. Utero-interstitial pregnancy, when the ovum occupies the uterine end of the cornual canal.
2. Tubo-interstitial pregnancy, when the ovum occupies the tubal end of the cornual canal.
3. Interstitial pregnancy proper, when the ovum is embedded about the middle of the cornual canal.

The termination of interstitial pregnancy is largely influenced by its location. In the utero-interstitial variety, the ovum may abort into the uterine cavity, may grow and develop to maturity, the placenta remaining fast in the cornua. In this type there is a distinct diaphragm of tissue separating the foetal sac from the uterine cavity, the membranes being apparently formed by the endometrium and a

portion of the muscular ring composing the cornua. In the interstitial form proper rupture into the peritoneal cavity is the common termination, though abortion into the uterus may take place. In the tubo-interstitial form, rupture is the usual termination, although incomplete tubal abortion may occur.

Diagnosis. A positive diagnosis of interstitial pregnancy before operation is unlikely. The phenomena in a case of ruptured interstitial pregnancy are identical with those of a ruptured tubal pregnancy. In this connection the differential diagnosis is of no import, since the same treatment is indicated for both.

The diagnosis before rupture depends upon the usual ectopic history and particularly the detection upon vaginal examination of an irregular enlargement at the horn affected, which merges completely with the uterus and an absolute absence of a pedicle.

Pregnancy in one horn of a bicornuate uterus may in certain cases present a serious difficulty in making the differential diagnosis. A small myoma in one cornu, or a unilateral cornual abscess may also offer difficulty, but the history will help at arriving at a correct diagnosis.

Lewers considers persistent amenorrhoea a very important sign in the differential diagnosis. Wynne's investigation of 36 cases showed that amenorrhoea was persistent in 12, regular periods in 2 and irregular bleeding occurring in 22 cases, although it was very slight in 5 of these.

Rupture. Rupture of an interstitial pregnancy is a grave lesion owing to the rich blood supply of this portion of the uterine body. Beckman and Siefert believe that perforations always occur on the posterior convex surface of the gestation sac.

Wynne found the site of rupture on the posterior surface in 5, on the posterior-lateral surface in 1, on the superior surface in 3, on the superior-anterior surface in 2, and on the anterior surface in 1.

Rupture generally occurs during the second and third months, although an 8-month foetus was found by Kupferberg and a 7-month foetus by Glaesmer.

Treatment. Because of the very severe hemorrhage in this type of ectopic pregnancy an immediate operation by abdominal route should be resorted to.

The type of operation must be selected to fit the emergency. Hysterectomy is usually preferred; excision of the cornu may be done more quickly in moribund cases.

The first operation for interstitial pregnancy was performed on October 15, 1893, by Traub, who did a supravaginal hysterectomy, and on October 23, 1893, Lawson Tait incised the sac and drained it.

Prior to 1893, all the cases in the literature had been found at autopsy.

Prognosis. The prognosis in this type of ectopic gestation is extremely grave. There is 11.9% mortality with operation.

REPORT OF CASE OF RUPTURED INTERSTITIAL PREGNANCY

Mrs. F., 29 years old, married 9 years. Pneumonia 8 years ago. One child was born in 1918 by instrumental delivery.

Since birth of the child the patient had been having attacks of pain in the right lower quadrant, and could not get pregnant. The writer performed a laparotomy on this patient on October 18, 1921, and the following was found:

Subacute appendicitis, right tube sausage-shaped containing pus, and left ovary markedly cystic. The appendix and right tube removed and the left ovary resected. The convalescence was satisfactory and the patient was discharged home in 2 weeks.

On September 8, 1924, the writer delivered Mrs. F. of a 7½-pound baby by mid-forceps, after a very uncomfortable pregnancy because of a severe pyelitis.

On June 16, 1925, the patient ceased menstruating and had subjective symptoms of pregnancy.

On August 21 1925, the patient awoke after a good night's sleep and commenced her usual daily routine when she was suddenly stricken with a sharp pain in her right side, and fell unconscious to the floor. The writer arrived about two hours later and found the patient prostrated. Her pulse was rapid and of poor quality, the mucous membranes pale, facies of a lemon yellow hue, and extremely restless. Her respirations were shallow and the skin cold and clammy. Hg was 55% and the Systolic B. P. 70. The abdomen was distended and rigid. Because of the rigidity and restlessness on the part of the patient, the vaginal examination did not reveal any positive findings. There was no vaginal bleeding. The picture was that of a severe internal hemorrhage, and the patient was immediately transferred to the hospital for operation.

The abdomen was opened in the median line, and an immense amount of blood found in the peritoneal cavity. The uterus was enlarged to a size of a two-months' pregnancy and on the posterior surface at the right cornu a ragged rupture was found through which a small foetus protruded. On removing the foetus the placenta projected. There was profuse bleeding from the sac.

Because of the shattered condition of the uterus and the remaining adnexa showing evidence of inflammation, I thought it best to remove all the pelvic organs.

A supravaginal hysterectomy with left sal-

pingo-oöphorectomy and right oöphorectomy was performed.

The abdomen was closed in layers, leaving a gauze drain in the pelvis.

The patient's general condition at this time was very poor. Five hundred c.c. of citrated blood was transfused from a professional donor, and the usual anti-shock remedies instituted. The convalescence was uneventful and the patient was discharged from the hospital on the 15th day in satisfactory condition.

PATHOLOGICAL REPORT—MRS. F.

Received uterus, supravaginal, with left tube, right ovary and portion of left ovary.

Uterus is 8 cm. long, 9 cm. wide at fundus, 6.5 cm. thick. A broad fibrous band is attached to top of fundus. At right cornu is a ragged opening 3.5 cm. in diameter from which a mass of placental tissue projects. Examination shows an empty amniotic sac approximately 6.5 cm. in diameter.

Foetus received separately, 10.5 cm. long, male.

Section shows uterine canal lined by a thick,

shaggy mucosa. The placenta is imbedded in musculature at right cornu.

Left tube is 6.5 cm. long, is bound by firm adhesions to portion of left ovary measuring 2.5 x 1.5 cm. On section ovarian tissue is pale, tunica thickened, with several small cysts in cortical portion.

Right ovary measures 3.5 x 3.5 x 2 cm. Surface is nodular and somewhat sclerotic. Section shows a large corpus hemorrhagicum with numerous other corpora in varying stages of organization.

Diagnosis. Ruptured interstitial pregnancy. Chronic perimetritis, perisalpingitis and periovaritis.

Sclerotic and cystic ovaries.

(Signed) TIMOTHY LEARY.

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RECURRENT OCULOMOTOR PARALYSIS: REPORT OF A CASE*

BY ROBERT M. STETCHER, M.D.

ALTHOUGH many cases of recurrent oculomotor paralysis have been reported in the past, very little is to be found on the subject in the standard textbooks of neurology. It, therefore, seems worth while to report this additional case, especially since it contains many clear cut features. Neither a complete review of the reported cases nor a comprehensive analysis of the literature on the subject will be attempted in this article.

The disease is apparently quite rare in general medical practice, this being the only discrete case in over 25,000 admissions to the medical service of the Peter Bent Brigham Hospital. According to Oppenheim¹, Spiller and Posey², De Schweinitz³, and Knapp⁴, the disease usually begins in childhood or early adult life and is characterized by paralysis of the third cranial nerve, recurring on the same side, usually with spontaneous and often complete recovery in several days to several weeks. The paralysis is always preceded by a sudden, severe orbital and supraorbital pain associated with nausea and vomiting. The headache disappears with the onset of paralysis or shortly after it. There is ptosis, dilatation of the affected pupil, photophobia and diplopia. Recurrences may be at intervals of several weeks to several years and need not always be accompanied by paralysis. The paralysis frequently

increases in duration and severity until it becomes permanent.

The nature of the condition is not definitely established, several distinct views being held. Charcot and Oppenheim believe there is a definite relationship to migraine, Charcot preferring the term, ophthalmoplegic migraine. They point to the frequent family history of migraine, the occurrence of repeated attacks of migraine before the onset of paralysis, and the fact that migraine alone may intervene between attacks of paralysis. Moebius contends that the pain lasts longer than is usual in migraine, that the definite periodicity of migraine is often lacking, and that the disease is usually progressive till the paralysis becomes permanent. He believes there is an organic basis for the ailment with a lesion in or about the third cranial nerve or at the base of the brain. Several reported autopsies of cases confirm this opinion, having shown basal hemorrhagic pachymeningitis, a tubercle, a fibrochondroma and a neurofibroma. Charcot and Oppenheim believe the disease is due to vascular spasm which, often repeated, leads to degenerative changes in the nerves.

The case here reported exhibited bradycardia during several paralytic seizures. One other case, reported by Nason⁵, had a slow pulse. This may be a manifestation of the oculo-cardiac reflex discussed by Levine⁶, by which slowing of the pulse results from pressure on the eyeball. This phenomenon is apparently

*From the Medical Service of the Peter Bent Brigham Hospital.

due to stimulation or irritation of the fifth cranial nerve and is absent if the nerve is severed. Sensory disturbances of the area supplied by the ophthalmic branch of the fifth cranial nerve are occasionally seen in recurrent oculomotor paralysis and would seem to substantiate this hypothesis.

J. V. A., a 12-year-old American-born school boy, entered the Peter Bent Brigham Hospital March 25, 1925, under the care of Dr. S. A. Levine complaining of squint of the left eye. Family history contained the facts that the patient's mother was subject to sick headaches for the previous five years, coming on without known predisposing cause, locating more particularly across the front of the head and associated with pain in the eyes and vomiting. The maternal grandmother had been subject to severe headaches and had died of chronic nephritis. The maternal grandfather suffered with gout and had died of cancer of the lip. The father, two brothers and a sister were living and well. The patient was delivered by forceps after a difficult labor. He had always been well except for measles and mumps in early childhood and diphtheria at the age of six. His tonsils and adenoids were removed under ether anesthesia at the age of six. Except for his present illness he was apparently perfectly well, attended school regularly and enjoyed the ordinary sports and activities normal for a boy of his age. He was fitted for glasses three years before entry but apparently got along well without wearing them.

His present illness began at the age of three, nine years before entry, at which time his mother noticed one night that his left eye was closed. There was no associated pain or discomfort at that time and complete recovery occurred spontaneously in several days. The attacks had recurred about once a year. Since three years after onset, the attacks were all preceded by sudden, severe headache localized in the bone of the left supraorbital region and associated with pain in the left orbit. Several hours after onset he had nausea and vomited with temporary relief. The headache usually lasted about 24 hours and, following it, there was photophobia, things looked bright in the left eye and there was ptosis. The ptosis had previously disappeared in a day or so. The last attack came on four weeks prior to entry. It was unusual in that it was preceded for one week by an attack of gripe which had kept the patient out of school. He had vomited only once, he had headache lasting two days, and this was followed by ptosis for two more days. The attack was followed by double vision for several days associated with black spots before the left eye.

During an attack the patient felt somewhat tired and weak. The patient's mother had noticed that the attacks were preceded by several

days of ravenous appetite. The last two attacks were associated with a bradycardia, his pulse being 47 at one time several days after the onset of the last paralysis and in a previous attack his pulse had been in the fifties for several days. Between attacks the patient felt perfectly well and, except in attacks, his vision was equally good in both eyes and he never had diplopia except as mentioned.

Physical examination was essentially negative except for the eyes. Both pupils were round and regular but the left was larger than the right. Both reacted to light and accommodation but unequally, the right reacting more strongly than the left. There was slight external strabismus of the left eye and diplopia on looking upward and to the right. There was no photophobia, lacrimation or nystagmus at the time of the examination. Ocular movements were normal in the right eye. On the left, the lid drooped slightly and there was difficulty in turning the eye to the right and upwards. There was no lidlag or exophthalmos. There was no jaundice or injection of the conjunctivae. The patient could read equally well with either eye. Ophthalmoscopic examination showed slight haziness of the disc margins with diminished physiological cupping on the right, absent on the left. The arteries were of good calibre, slightly tortuous and did not nick the veins. They all crossed the disc margins sharply except the infra-nasal artery in the left eye, which seemed to dip out of focus for a short distance. There was no retinal exudate or hemorrhage. The examination of the rest of the head, of the heart, lungs and abdomen was negative. Blood pressure in the recumbent position was, systolic 105, diastolic 60. The reflexes were normal. The extremities were not remarkable except for webbing of the second and third toes on each foot.

Clinical and laboratory findings were negative. Stereoscopic films of the skull were negative. Skin tests with 27 proteins revealed no sensitivity. Electrocardiogram, made because of the history of bradycardia, was normal. Blood Wassermann reaction was negative, as were two urine examinations. Phthalein test was 66% in two hours and ten minutes. Hemoglobin was 71%, red blood count over four million and white blood count 9,700. Blood smear was normal and differential count polymorphonuclear leucocytes 45%, lymphocytes 44%, large mononuclear leucocytes 9% and eosinophiles 2%. The patient was seen by Dr. Cushing. He found no anatomical basis for the condition but recommended the wearing of an eye shield while there was diplopia and a lumbar puncture at the beginning of the next attack. The patient left the hospital without treatment.

Several points in this case deserve special comment. Among the typical features may be mentioned the onset in early childhood, the

progressive severity of succeeding attacks, the apparently perfect health and absence of symptoms between attacks and the sudden onset with severe orbital and supraorbital pain associated with nausea and vomiting followed by ptosis, diplopia, photophobia and dilatation of the affected pupil. Among other associated features of secondary significance are the history of migraine in the mother, forceps delivery after a difficult labor, grippe for a week preceding the last attack, the bradycardia with the last two attacks, and the finding of webbed toes.

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ANENCEPHALIC MONSTER. ONE OF TWINS

BY H. K. THOMPSON, M.D.

CASE No 145220, Massachusetts Homeopathic Hospital. The mother, Rose F., a primipara, age 19, was admitted to the Robinson Maternity at 12:45 A. M. March 28, 1923. She was a Jewess, born in Russia. The family history

Jan. 23, 1923. Examination at this time showed no remarkable symptoms or physical findings. Urine sample was essentially negative. Wassermann negative.

Subsequent monthly examinations showed



was negative. There was no other known instance of twins born in the family.

The patient had had no unusual illness, surgical operations, or X-ray exposure previous to delivery. Catamenia at 13, regular and profuse lasting 3-4 days.

This was the first pregnancy. Last menstruation was on July 4, 1922. Date of quickening Aug. 4, 1922, and the date of expected labor April 10, 1923.

Application to the Maternity was made on

nothing remarkable. Urine quantitation on March 14, 1923, was essentially negative. Measurements were within the normal limits.

Labor began March 28, 1923, at 10 P. M., and ended at 6 P. M. The first stage lasting 7 hours. Rectal examination showed Cephalic L. O. A. Heart tone maintained, contractions regular. Second stage 35 minutes, partial ether anesthesia being used. Third stage,—laceration of cervix, first degree tear of perineum and profuse hemorrhage. Placenta ex-

pressed intact by the Crede method. Intravenous saline given while cervix and perineum were repaired. Two hypodermics of pituitrin-ergot given.

Twins were delivered. The first a normal male weighing 7 lb. 4 oz. The second a monster, stillborn. A single placenta.

The normal child and mother left the Hospital on the 15th day in good condition, the child weighing 6 lb. 13 oz. The mother had made an uneventful recovery.

The second fetus weighed 2 lbs.

Pathologist's Report:

Length of body 25 cm. No head or arms. Rudimentary legs. At the upper end is a soft mass of brownish tissue, membranous in character. That part corresponding to the chest consists largely of a solid mass in which some less firm tissue is found corresponding to lung. No heart is demonstrable. The abdominal cavity shows no evidence of liver, spleen or stomach. Various loops of intestine are present communicating apparently with the bladder in the form of a cloaca. A small knob-like protuberance is present at the site of the external genitalia. No opening here or in anal region.

THE PRICE OF A COLD

At a recent convention in Atlantic City the cost of colds was drawn to the attention of the assemblage. The meeting was addressed by Dr. Beeman Douglas of New York City, who declared that there were 100,000,000 colds a year in these United States. He placed the cost at \$1,500,000,000 from loss of work, or an average of three days each at \$5.00 a day. Dr. Douglas also stated that dry air in homes during the winter is largely responsible for the number of colds. A person goes from the open air with its natural moistness into his home where the dry air makes the membranes of the nose crack and bacteria find lodgment, thereby causing a head cold.

CLERGY OFFER TO AID DOCTORS

A GROUP of prominent clergymen affiliated with the Federal Council of Churches in America have adopted resolutions offering their aid to the New York Academy of Medicine in the investigation it has just started into the subject of religion in its relation to health.

The resolutions were forwarded to the Academy of Medicine, it was said, with the understanding that the initiative in calling upon the churches for aid must come from the physicians. At the Academy of Medicine it was said that religious treatment undoubtedly was of benefit, sometimes, in the treatment of functional

and nervous disorders and that it had proved effective in helping persons bear pain with fortitude.—*N. Y. Times*.

MASSACHUSETTS REMODELS SANATORIUM TO CARE FOR EXTRA-PULMONARY CASES

THE Massachusetts State Department of Health is completing alterations in the Lakeville State Sanatorium, one of four similar institutions operated by the state, with a view to converting this institution into a sanatorium for extra-pulmonary tuberculosis. This will be the first institution of its type in Massachusetts. The institution will cater to children and adults. The children's division of the sanatorium will open in the near future. The adult sections will probably not be opened until next year. So far as we know, this is the first and only state sanatorium in the United States exclusively for surgical and extra-pulmonary tuberculosis.—*Bulletin of National Tuberculosis Association*.

COMPANY HAILS NEW HEALTH RECORD

LOWEST DEATH RATE AMONG METROPOLITAN LIFE'S 16,000,000 INDUSTRIAL POLICYHOLDERS THIS YEAR

THE health record of American and Canadian wage earners and their families during the first nine months of 1925 is the most favorable ever experienced for a similar period of any year, as indicated by the unprecedented low mortality experience of the more than 16,000,000 industrial policyholders of the Metropolitan Life Insurance Company. The death rate for the first three-quarters of 1925 among this cross-section of the industrial populations of both countries was 8.2 per thousand. This compares with 9.2 per thousand for the same period last year; with 8.8 in 1923, and with 8.4 in 1922.

A decline of 17.7 per cent. in the mortality from tuberculosis, compared with the same period last year, was the most important single item in this record. The rate for white policyholders was 81.2 per 100,000, and a very encouraging decrease was also registered among colored persons.

While all the main epidemic diseases of childhood showed an encouraging improvement, by far the greatest decline was shown in connection with diphtheria. Not only is the death rate 10.6 per 100,000, the lowest ever recorded among industrial policyholders for any similar nine months' period, but according to the Metropolitan's statistical bulletin, the rate for the third quarter of 1925, 7 per 100,000, is a new minimum for any three months' period.—*N. Y. Times*.

Case Records
of the
Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN
WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY
RICHARD C. CABOT, M.D., AND HUGH CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

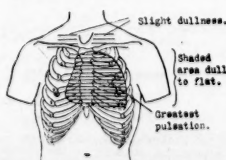
CASE 11531

MEDICAL DEPARTMENT

A MAN forty-six years old entered August 24. He had typhoid at eleven, gonorrhea at twenty-one and syphilis and "inflammatory rheumatism," polyarticular, at twenty-six. Until eleven months before admission he was a hard drinker; for eleven months he had taken no alcohol.

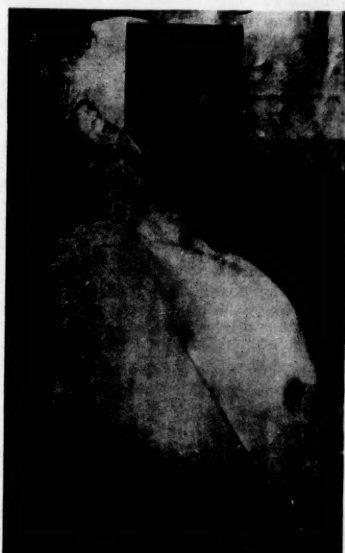
For over two years he had had hacking cough and indefinite pain in the precordial region. At times the upper chest was sensitive. He had had increasing dyspnea on exertion. He could lie flat and with greatest comfort on the right side. For ten months he had had severe pain in the left upper chest. His chief trouble however was paroxysms of coughing. He had been in a hospital a little over two years before admission and a year before admission. Eleven months before admission he had to give up work on account of weakness. He was often hoarse for a few hours at a time. All summer and especially for the last four days he had rattled and wheezed.

Examination showed a poorly nourished man with pale sallow skin. The apex impulse of the heart and the left border of dullness corresponded in the fifth space half an inch outside the nipple line. The right border of dullness was two inches to the right of the sternal margin in the fourth space. The action was regular. The sounds were of good quality. The aortic second sound was greater than the pulmonic second. There were no murmurs and no thrill. (Râles however made it difficult to hear the heart sounds.) There was marked bulging of the left chest over the dull area (see diagram and plate).



The greatest bulging and the greatest pulsation were in the third and fourth left spaces. There was no bulging in the first or second spaces, left, or to the right of the sternum. The pulses were

equal, regular and synchronous, of good volume and tension. The blood pressure is not recorded. The arteries were palpable and slightly tortuous. The brachials pulsated. The neck and arm veins were distended. Throughout the lungs rhonchi were heard, apparently transmitted from the trachea. There was slight dullness at



the left apex, front and back, and at the right apex in front. The abdomen was rigid throughout. The genitals and knee-jerks were normal. The pupils were irregular, equal, reacted normally.

The temperature was 97.6° to 100.9°, the pulse 85 to 134, the respiration 17 to 34. The urine showed a few scattered red blood cells, specific gravity 1.024, amount 12 to 41 ounces. The blood was normal. No Wassermann is recorded. The sputum showed two round masses as big as walnuts; no tubercle bacilli, many kinds of mouth bacteria. X-ray showed a large shadow corresponding to the area of dullness; no differentiation of structure.

The patient was kept comfortable on morphia. The pain diminished. The mass seemed to increase and then decrease. It had two main bosses, one over the precordia and one above it under the clavicle. The pulsation varied from time to time in amount and extent. The lower boss seemed to be fluctuant. The patient had less cough, but had very severe paroxysms of dyspnea and said that dyspnea prevented him

from swallowing his food. He continued to be fairly comfortable, though he lost ground. By the 10th of September he spoke only in a whisper. September 15 he looked thinner and paler, but otherwise in about the same condition. The next afternoon he was found dead.

DISCUSSION

BY DR. RICHARD C. CABOT

NOTES ON THE HISTORY

This sounds like aneurysm, of course. Here is a man who has a lot of pain in his chest, localized, not depending on cough apparently, who also has paroxysmal cough, who also has hoarseness and râles. He is middle-aged, forty-six. He is said to have syphilis. So that we have the usual background for that guess at a diagnosis.

The other causes that would naturally be in our minds would be malignant disease of the chest and the possibility of tuberculosis. The latter does not seem to me probable.

NOTES ON THE PHYSICAL EXAMINATION

The abdomen was rigid but apparently not otherwise remarkable.

Albumin and sugar were absent from the urine.

At this period we were not doing Wassermanns regularly. This was a good many years ago.

We wonder whether he really had dysphagia, which seems rather more probable, or whether it was that trying to swallow started cough. We cannot be sure.

DIFFERENTIAL DIAGNOSIS

I do not see any occasion for an elaborate differential diagnosis here. If this is not aneurysm we are never going to make a right diagnosis of aneurysm. The only question is, what else it is besides aneurysm, what is it pressing on, what structures has it injured? I should think it obviously pressed upon the trachea or left primary bronchus or both. I think it has invaded the recurrent laryngeal nerve. I should think it quite possible that it touched the esophagus. We see in the diagram slight dullness above both clavicles, but nothing else is said about any other physical signs there, so that no lesion can be diagnosed.

Of course this is the sort of case in which one often gets "aneurysmal phthisis," that is bronchiectasis and pneumonitis due to retained secretions and the stenosed bronchus.

I suppose one ought to consider for a few minutes the possibility of tumor. Why should it pulsate if it is tumor? It might be so vascular. I suppose, as to transmit the pulsations from the vessels leading to it. But if it was as extensive as this would have to be with malignant disease

isn't it probable that we should get evidence of metastases either local or at a distance? I think so. If we had an X-ray we might be able to tell something from that.

DR. HOLMES: It usually helps to distinguish those two.

DR. CABOT: In the old days before the X-ray this used to be one of the most difficult differential diagnoses, between aneurysm and malignant disease of the chest. I have not seen one of these mistaken for the other for some time, however, and I think it is because of the X-ray.

Obviously this is not an aneurysm that anybody would try to wire. It is not outside the chest, is not sacculated. To attempt it might be pushing the wire into the heart as they did so beautifully lately at another hospital. The X-ray showed the wire going right through the aortic valve and down to the cardiac apex. It did not apparently do him any harm, though he soon died of his aneurysm.

DR. PORTER: We had the same thing happen in a case here. The patient died, but not of the wire.

DR. CABOT: Nobody suggested that the patient at the other hospital died of the wire. Does anybody wire aneurysms now?

DR. PORTER: Dr. Hare published 30 cases, many with quite definite improvement.

DR. CABOT: I remember Dr. Finney's cases, but I have not seen any lately.

I should say this was aneurysm of the aorta, probably pressing on the trachea, the right primary bronchus, very possibly on the esophagus.

DR. WHITE: Do you think the incidence of aneurysm is as great as it was?

DR. CABOT: I do not believe I have any way to give an intelligent answer to that. We certainly have not had many here at necropsy of late. That of course does not prove anything. Is that your impression?

DR. WHITE: I was wondering why that might not explain the loss of enthusiasm about wiring, because there were not so many.

DR. CABOT: I think it might be worth while to look that up as we have done with other diseases.

*Note by Dr. Cabot. Since this discussion we have gone over each thousand autopsies from 1896 to the present day. The results are as follows:

First thousand autopsies	14 cases of aneurysm
Second " "	14 " " "
Third " "	10 " " "
Fourth " "	15 " " "
Last 919 " "	8 " " "

In the last 419 autopsies there have been but two cases of aneurysm in either the thoracic or the abdominal cavity. It thus appears that there is some falling off in the number so far as we can judge from our experience in the Massachusetts General Hospital.

In the above figures we have grouped together in each thousand autopsies the cases of aneurysm of the thoracic and of the abdominal aorta without distinction. In the entire number there were but eight cases involving the abdominal aorta. All the rest involved the thoracic aorta. In one case both the thoracic and the abdominal aorta were involved. Cases of dissecting aneurysm, of mitotic aneurysm, and all those involving the smaller vessels were excluded.

DR. PORTER: I read a paper on aneurysm two years ago before the American Surgical Association. I went over all the cases in this hospital for 50 years. I had had more cases than anybody else here, but it was remarkable that Dr. Gibbon of Philadelphia had personally operated upon five times as many. We asked him why. It was because he was operating upon syphilitic negroes who do not take any treatment.

A PHYSICIAN: Can you tell from the diagram on which side the aneurysm is?

DR. CABOT: I do not know that we can. It certainly goes further toward the left. The shaded area goes beyond the left nipple. I do not think we can tell more than that most of the aneurysm seemed to be on the left. The pain has been on the left.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Aneurysm of aortic arch.

DR. RICHARD C. CABOT'S DIAGNOSIS
Syphilitic aortitis.
Aneurysm of the aorta.

ANATOMICAL DIAGNOSIS

1. Primary fatal lesions

Probably syphilitic aortitis.

Aneurysm of the first portion of the aorta with rupture into the pericardium.

2. Secondary or terminal lesions

Arteriosclerosis of the aorta.

Compression atrophy and bronchopneumonia of the lungs.

Chronic tuberculosis of the pleura, lungs and bronchial lymph nodes.

DR. RICHARDSON: The head was not examined.

There was marked distortion of the left side of the thorax anteriorly, due to the presence of a mound-like mass over the outer part of which the second, third and fourth ribs were markedly bowed.

The incision was restricted to a ten-inch cut. Through this the following conditions were made out. In the situation of the first portion of the aorta there was a huge ovoid mass which took up a large part of the thoracic cavity and crowded the lungs over on each side, more markedly on the left. On section this mass was found to be an aneurysm of the first portion of the aorta. The second, third and fourth ribs and the sternum showed more or less erosion on their internal aspects. The aneurysmal sac laid open measured 28 cm. in width and 15 cm. in length. The wall presented posteriorly a strip of aorta which showed marked fibrocalcereous changes. Elsewhere there were layers of edematous fibrinous material, somewhat necrotic in places.

The left lung where it was in relation with the wall of the aneurysm was markedly atrophied. The right lung showed some atrophy, but not so marked as the left. The wall of the aneurysm was closely adherent to the pericardium, and at one point the common wall made by the pericardium and the aneurysm was thinned out and showed at one place a small ragged opening through which the blood from the aneurysmal sac passed into the pericardial cavity. The pericardial cavity contained a large amount of blood clot.

The cusps of the aortic valve showed what at that time I called arteriosclerotic change, but the organ otherwise was negative. The descending thoracic aorta also showed arteriosclerosis.

The pleura over the apices of the lungs showed patches of grayish yellow thickening and small fibrocaseous nodules. Here and there in the pleura there were small fibrocaseous plaques and nodules. These extended for only a short distance into the lung tissue. In the lower lobe of the right lung there was a small fibrocaseous mass just beneath the pleura. The bronchial lymph glands were markedly enlarged and showed here and there areas of fibrocaseous material slightly calcareous in instances. In the lung tissue elsewhere there were areas of bronchopneumonia. Microscopic examination showed the fibrocaseous lesions in the glands, pleura and lung to be chronic tuberculosis.

This examination was made before spirochetes were found in the lesions of aortitis; but from the age of the patient and the general anatomical picture it was probably a case of syphilitic aortitis with aneurysm and rupture into the pericardium.

CASE 11532

SURGICAL DEPARTMENT

A MAN of fifty-nine entered May 13. His first child was living and well. The second, fourth and sixth children died a few weeks after birth. His wife's third pregnancy ended in a miscarriage. The fifth child died at eleven months in a convulsion. The patient's past history showed nothing of significance.

Twenty-eight months before admission he had a very vigorous sneeze which caused very severe pain over the upper sternum for a few minutes. Two months later he was ill in bed for a week with influenza. Soon after this his wife noticed a lump the size of a walnut over his midsternum at the site of the present lesion. It was not noticeably hard or soft, did not pulsate, and the skin over it was not discolored. The lump grew slowly but steadily until two years before admission it had reached the size of a peach. He was given antisyphilitic treatment for two months and a half. His face then suddenly be-

came very edematous, and in alarm he discontinued his treatment. During the past year the tumor had not grown perceptibly, but had taken on a definitely expansile pulsation and had caused considerable pain, feeling like a vise-like constriction about the growth with each pul-



PLATE I.

sation of the heart, much worse at certain times, definitely increased by exertion and by the assuming of abnormal positions, at times radiating into both breasts and the arms in the region of the biceps. The pain had interfered a good deal with his sleep. For the past two weeks he had had to hold his hand over his sternum to avoid pain on coughing. He noticed a little phlegm in the throat. Deep inspiration was limited by pain and a sense of fullness. His appetite was good and he had had no appreciable loss of weight.

Examination showed a rather obese man apparently in good general health. The heart, lungs, abdomen and extremities were normal. The blood pressure was 150/80. The left epididymis was somewhat swollen and hard. The left pupil was slightly greater than the right; both reacted normally. The reflexes were normal. Over the upper sternum was a large dome-shaped tumor 10 by 12 cm. exactly in the median line, covering an area from the insertion of the fourth ribs up to the interclavicular notch and out on both sides over the costal cartilages. It pulsated synchronously with the heart and transmitted a systolic murmur which was heard along the great vessels into the right

side of the neck. This murmur could not be heard over the heart itself.

The temperature and respiration were not remarkable. The pulse was 75 to 102. The urine was normal. The blood was normal except that the platelets were large and increased in numbers. Fluoroscopic examination of the chest showed the aortic arch to be normal in size and shape. No mediastinal tumor was made out. In the lateral view the outline of the sternum was fairly well shown. There was some inward bulging of its inner surface, but normal lung was seen between the sternum and the great vessels. The bone in the upper portion of the sternum was partially destroyed, and this area was continuous with the shadow of the tumor. In the

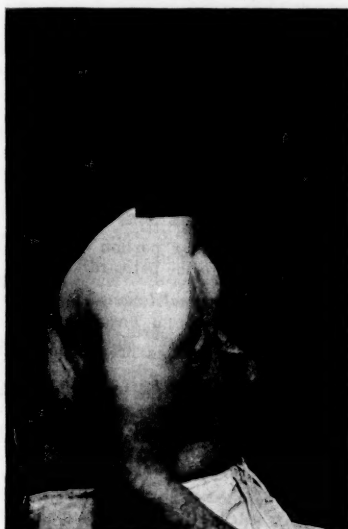


PLATE II.

shadow of the tumor itself were many irregular dense areas which suggested new bone formation.

The patient was seen by a number of medical and surgical consultants the majority of whom advised operation. After three days at home to attend to business matters the patient returned to the hospital. May 21 operation was done.

DISCUSSION

BY DR. CHARLES ALLEN PORTER

This case is one of the most interesting that I have ever seen, and presented some rather unique features.

The man learned to put his hand over the sternum whenever he sneezed.

His Wassermann was negative. Anti-syphil-

itic arsphenamin treatment was given owing to the fact that the growth was rather characteristic of a gumma and that his wife had had so many children die, although there was nothing to indicate specific disease in his history.

The tumor in the two months previous to entrance had begun for the first time to grow rather rapidly.

The urine was examined several times for

the aorta, but they were not perfectly sure. The patient was very fat and it was very difficult to take a picture of him in this position. There was a light shadow between the sternum and the arch suggesting no connection between the two.

I should like to make two or three remarks clinically before we have the advantage of the X-ray interpretation. We have here a large

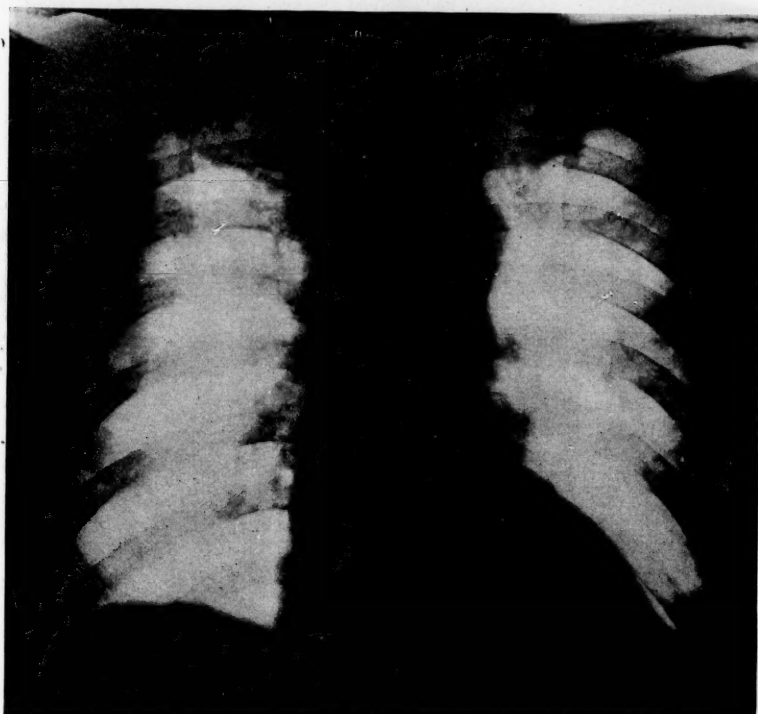


PLATE III. Shows an area of increased density continuous with the shadow of the neck and extending down into the thoracic cavity. The aortic arch is normal in size and shape.

blood, and twice for albumose, which was not present.

He was examined especially to see whether there was any secondary anemia which might be connected with a malignant growth. It was not present.

There was an X-ray examination two years before entrance at which nothing very definite was found except that there was something involving the upper part of the sternum. That was when the growth was very small, about the size of a walnut. Finally they got an oblique picture from which they thought they could state that this growth had nothing to do with the arch of

pulsating tumor of the sternum in a man showing no evidence anywhere which would suggest the possibility of metastasis. He has never had a single red cell in his urine, because of course we thought of a metastatic hypernephroma. We did not however take a pyelogram. There was no albumose, which goes with some bone tumors. There was no irregularity of the pupils. There was no tracheal tug, no paralysis of the vocal cords, though he was slightly hoarse. There was evidence in the previous X-ray to suggest that this was not an aneurysm of the arch. The two anterior ends of the insertion of the sternomastoids definitely pushed forward. If we pressed

over the upper part of the tumor we felt that the impulse through this expansile thing was somewhat diminished. The upper part was distinctly softer than the lower part, and the vas-

Trying to put my finger down behind the sternum I came upon pretty vigorous pulsation. The contour of the tumor was not characteristic of a perforating aneurysm, but was distinctly



PLATE IV. Lateral view. There is some inward bulging of the inner surface of the sternum, but normal lung is seen between the sternum and the great vessels. The bone in the upper portion of the sternum is partially destroyed, and this area is continuous with the shadow of the tumor. In the shadow of the tumor itself are many irregular dense areas which suggest new bone formation.

cular lesion, whatever it was, was nearer to the skin. It was more soft in the centre than at the edges, as if something had eroded a good deal of the sternum.

flat-domed. It was definitely pulsating, but one did not get the impression that the heart was beating right against it. There was no accentuation of the second sound, no enlargement of the

heart. Those things all speak against a perforating aneurysm, unless it be one in which there was a very small communication which had broken through at the time of the sneezing; and the history of aneurysm is such that in twenty-eight months it would have pulsated a

Another suggestion was that we had a small perforation of the arch, with the sac more or less occluded by clots. At the American Surgical Association we heard of three cases of aneurysm of the internal mammaries which in one case eroded the sternum; but against this diag-



PLATE V. Oblique view. The posterior mediastinum is clear. The aortic arch is apparently normal. The sternum is deformed.

good deal more and progressed more than this tumor had done.

Various opinions were expressed. Dr. White thought it was not a perforating aneurysm of the arch, that it was some sort of tumor which was abnormally pulsating. Against a pulsating sarcoma was the fact that we had no tortuous veins, which almost always go with a tumor as vascular as this.

nosis was the X-ray which Dr. Holmes presented. So it did not exclude aneurysm, but it excluded aneurysm of the arch. Then we might have a growth in the sternum which received this very rich pulsation from one or the other mammary or intercostal arteries. I have never before seen a tumor with such definite expansile pulsation as this one.

DR. GEORGE W. HOLMES: This (Plate III) is

the anterior-posterior view, and shows an area of increased density continuous with the shadow of the neck which extends down into the thoracic cavity. It shows an apparently normal supra-cardiac dullness and a normal arch. From this plate we should be justified in saying there was not an aneurysm of the aortic arch, but could not be justified in saying there was not an aneurysm of the innominate.

Here is a plate (Plate IV) taken in the direct lateral view. We see the outline of the sternum, and vaguely the shadow of the aorta; between them a considerable area of lung. We thought a plate of this kind ruled out an extension from the arch or from the innominate through the sternum. We can also see that the midportion of the sternum is more involved than the inner surfaces. The midportion is destroyed, and the process extends through the anterior surface. It looks like a process of the bone itself.

DR. CABOT: This sternum is abnormally thick, isn't it?

DR. HOLMES: Yes. That may not be correct. Here is another view which brings out the clear space between the aorta and the anterior chest wall rather better than the first one did. We follow the line of the aorta on either side and see the clear space up into the neck, so we can be quite certain that there is no connection between the tumor and any of the great vessels.

Here (Plate V) we have an oblique view. Here again the posterior mediastinum is seen to be clear. The arch is apparently normal, and here is the deformed sternum. This plate also shows that the process is in the bone. Here is the clavicle coming down on either side, and then the upper segment of the sternum.

DR. PORTER: I read up the literature and found that Lund, Peckham, and Hedblom had all written articles on the chest, and not one of them mentions a pulsating tumor of the sternum. Going back to Paget I found mention of several pulsating tumors of the sternum, some of which had been operated upon.

Now came the question what to do. We first had him grouped and had a donor ready, because of course we might come up against some hemorrhage. I divided both sternomastoid insertions and very carefully passed my forefinger downward close behind the sternum in order to eliminate by touch as well as by X-ray any possibility of aneurysm. The manubrium was perfectly normal as I felt behind the gladiolus. It bulged backward, but there was no pulsation and no aneurysm. I felt for both internal mammaries but could not find them. I made an incision over the front of the tumor, reflected the flaps and dissected down, working from the periphery inward, and for a moment had a feeling that I might get it all out or curette it away. The growth was soft, and I came across salmon colored debris which looked like the inside of an

aneurysmal sac. The bleeding was extreme, but not as if it came from an aneurysm. I had finally controlled the hemorrhages with hemostats when suddenly my finger went into a hole in the sternum, and we had gushes of blood, but not so severe as would come from the arch itself. If one happens upon any of the big vessels one gets a definite *whish*, whereas in venous hemorrhage we get a dreadful ooze.

I found that at the lower part of the gladiolus there was a definite tunnel which was just blocked by my forefinger. It went obliquely in and up about an inch and a half and then opened into a cavity.

DR. CABOT: That is from the anterior surface?

DR. PORTER: Yes. Then came the question what to do. I first tried to control this bleeding by firm packing. But it wouldn't do it. What was the next thing? Remove the whole sternum? That would have been definite, and has been done a number of times. But the man's condition was such that we did not think it advisable. The only other thing left to do was to infold the sac as in a Matas obliterative endoaneurysmorrhaphy. So I cut loose the edge of the mass, put a piece of the wall into the hole in the sternum and kept rolling in the edges with mattress stitches of chromic gut. I put in a little wicking until the hemorrhage was completely stopped, and sewed up the skin in the median line. A specimen was sent to Dr. Wright, and he reported metastatic hypernephroma.

There was a certain amount of drainage of serum and debris from the wound, owing to the tension. The man left the hospital in about three weeks. He has been having X-ray treatment ever since. There was some discharge from two sinuses for several weeks. He lost a little weight. Under the X-ray treatment the tumor began to shrink. They did not dare to do any more for fear of necrosis of the skin. In about two months pulsation began again. He did not show any evidence of any other metastasis. He has been here on November 30. The tumor is smaller than it was, it pulsates less, and his general condition is good.

On looking up the literature we found that occasionally people have had only one metastasis from hypernephroma and have died eventually from the original tumor. If the tumor should start growing again this man might choose to take a grave risk and have the sternum removed.

DR. CABOT: You have not been able to get any more information about his kidneys?

DR. PORTER: I have not wished to, because I have told him that he has a sarcoma of the sternum, but not that it is metastatic, and I have feared to arouse his suspicions by pyelograms.

DR. CABOT: Is this so far as you know a not

uncommon place for metastasis of hypernephroma?

DR. PORTER: I am inclined to believe that some of the pulsating tumors which Paget described were perhaps also hypernephromata. Within two months of this man's entry in came another case of metastatic hypernephroma which Dr. Holmes will now demonstrate. He had other metastases too.

DR. HOLMES: This case does not show involvement of the sternum. It does show it in the clavicle and in the humerus.

DR. PORTER: This was a very slightly pulsating tumor involving the inner ends of both clavicles.

DR. CABOT: Do metastatic hypernephromas ordinarily pulsate?

DR. PORTER: I think not. I think a very small proportion may.

DR. HOLMES: We looked up the literature pretty thoroughly, and we were able to find three similar cases due to hypernephroma. The English have an interesting theory in regard to where these tumors metastasize in bone. They metastasize in the bones where there is red bone marrow, that is, in the flat bones and in the upper ends of the humerus and the femur.

DR. CABOT: If this man had been in better shape you would have tried to take this thing out, I suppose.

DR. PORTER: I think it would be the logical thing to do. But very few people would care to take out a man's sternum for a metastasis, when the very next day another might appear elsewhere. If that were a primary tumor one would not hesitate a moment. The tumor perforated the bone and then mushroomed over the sternum. I was trying to get down to its base when my finger entered the tunnel.

A SURGEON: The pulsation was simply due to a very rich blood supply?

DR. PORTER: Yes, from the mammaries and intercostals.

DR. HOLMES: I saw him the day before yesterday. He thinks he is better, and I thought the mass was smaller. The skin is a little puckered over the aorta. It is possible that the radiation has set up some fibrosis which is shutting off the blood supply.

DR. PORTER: That is what we want. He is back at work, driving an automobile.

DIAGNOSIS

Metastatic hypernephroma of the sternum.

CASE 11533

MEDICAL DEPARTMENT

An Italian laborer forty years old came to the Out-patient Surgical Department Decem-

ber 31, 1920, complaining of a shot in the left chest four years previously. The bullet passed into the chest at the side at about the level of the sixth rib. He now had diffuse soreness over the right chest and right back with occasional sharp pains on deep breathing. X-ray showed considerable increase in the hilus shadow on both sides, apparently due to glandular enlargement. There was nothing definitely pathological in the lung fields. The heart shadow was enlarged in all diameters. The greatest increase was in the region of the left ventricle. The supracardiac dullness was increased (See Plate I). The aortic shadow was prominent both to the right and to the left. A Wassermann was negative.

January 11, 1921, he entered the wards. He gave a history of three or four Neisser infections and an untreated sore on the penis when he was thirty-two. One of his children died at birth. Three were living and well. He sometimes urinated once at night. He had lost ten pounds in two months. He drank wine, but rarely was intoxicated.

Ten weeks before admission he found he was not sleeping well, had some palpitation and headache and sweat profusely. Eight weeks before admission he was obliged to give up work because of pain over the precordia on exercise and also some pain in the left arm. From that time he became more weak, even while resting, and found difficulty even in turning over in bed. The precordia near the sternum was tender. He slept more comfortably when propped up.

Examination showed a well nourished man with very moist skin and slightly cyanotic mucous membranes. The teeth were a few carious stumps. The tonsils were red. There was bulging of the precordia anteriorly. The lung signs were as shown in Figure 1. The apex impulse of the heart was seen and felt in the fourth space 5.5 cm. to the left and in the seventh space 16 cm. to the left. The impulse did not shift in the left lateral position. The percussion measurements were as shown in Figure 2. There was systolic retraction at the left epigastrium. The action was regular and rapid (100). The pulmonic second sound was greater than the aortic second, but not accentuated. The sounds were of poor quality. A systolic murmur was heard over

the precordia, loudest at the two areas where the impulse was seen, at the apex replacing the first sound, and transmitted to the axilla. A diastolic murmur was heard along the left sternal margin. The pulses were equal, synchronous, normal volume, low tension. The blood pressure was 142/75 to 120/55. The artery walls were palpable. There was slight capil-

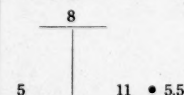


FIGURE 2. Percussion measurements January 11, 1921.

lary pulsation. The liver dullness extended from the fifth rib to 3.5 cm. below the costal margin, where the edge was felt. There was a small right inguinal hernia. Rectal examination was negative. The pupils were normal. The left knee-jerk was greater than the right. The latter was brought out by reinforcement. There was no definite Romberg, but slight swaying.

The temperature was 97.4° to 99.8°, the pulse

aspirin gr. x 4 i. d. in excess water. January 12 saturated solution of potassium iodid ten drops t. i. d. January 17 digitalis leaves gr. iss t. i. d. p. c. January 19 digitalis leaves gr. iii 2 i. d. January 20 digitalis leaves gr. iii t. i. d. one day only, Heyden's solution minims v intramuscularly every other day, increase potassium iodid one drop t. i. d.

The cardiac signs remained the same while the patient was in the ward except that the

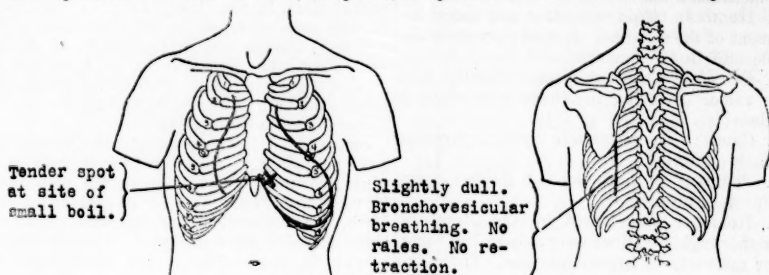


FIGURE 1.

68 to 120, the respiration normal. The urine was cloudy at three of five examinations, alkaline at two, specific gravity 1.016 to 1.044, 1.5 per cent. sugar at one of five examinations, diacetic acid at one, rare leucocytes at four. The blood was normal. One Wassermann was negative, two strongly positive. A lumbar puncture gave 10 c.c. of fluid negative except for a questionable goldsol reaction, $\pm\pm\pm\pm 000000$. Fluoroscopic examination in the anteroposterior position showed nothing except an enlarged heart, as previously noted. Examination in the straight lateral position showed a heart shadow which did not separate itself from the anterior chest wall in its middle portion as does the heart in all normal cases thus far examined in this way by Dr. Golden. The light however did not come through just above the diaphragms in the upper part of the chest. This is the picture described in the books as indicating adhesions of the pericardium to the anterior chest wall. It might be due in this case to a projection from the heart itself in the region above described. It could not be determined positively whether there were any pulsations at the point where the heart shadow came in contact with the chest wall. In all cases thus far seen by this observer where the anterior mediastinum was involved, as in cases of tuberculosis, the entire heart shadow maintained its contact with the sternum on deep inspiration. The fact that in this case light came through in front of the lower part of the heart shadow but did not in the middle part suggests that the process was localized in this area and not diffuse as in tuberculous mediastinitis.

Orders: January 11 soft solids, head rest,

diastolic murmur became fainter and over the bulging pulsating area to the left of the sternum there appeared a diastolic shock. In spite of absolute rest in bed and the fairly large doses of digitalis the pulse rose steadily. January 24 he was discharged to the Out-Patient Department.

Records of the Cardiac Clinic show a visit February 14. An electrocardiogram showed

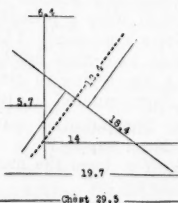


FIGURE 3. Measurements by X-ray July, 1921.

left ventricular preponderance +20. Notched S in lead III. P wave notched and broad in leads II and I. He was told to continue to rest at home and to take fifteen drops of potassium iodid solution and one corrosive chlorid of mercury tablet* three times a day. June 30 he was feeling much improved. He was somewhat short of breath. The pain in the chest was infrequent, and occurred chiefly when he coughed. He looked much better, bright and happier. The blood pressure was 135/80. The pulsation over the precordia was now limited to the apex region and less painful. The precordia was not tender. He was told to con-

*Hydrarg. chlor. corrosivi gr. 1/16. Ext. glycyrrhine gr. i. Tablets no. 100.

tinue the potassium iodid and chlorid of mercury.

July 6 a series of weekly small doses of diarsenol was begun. X-ray showed the chest to be of a rather short, wide type. The diaphragm was high. The heart lay horizontally. Its shadow was very much widened in the

had a little cough and with it some substernal and precordial pain. The pulsation was less prominent. The aortic diastolic was heard at the left border of the sternum.

October 6 he was feeling fairly well, but could not do the least work without substernal pain. For two weeks he had had some cough

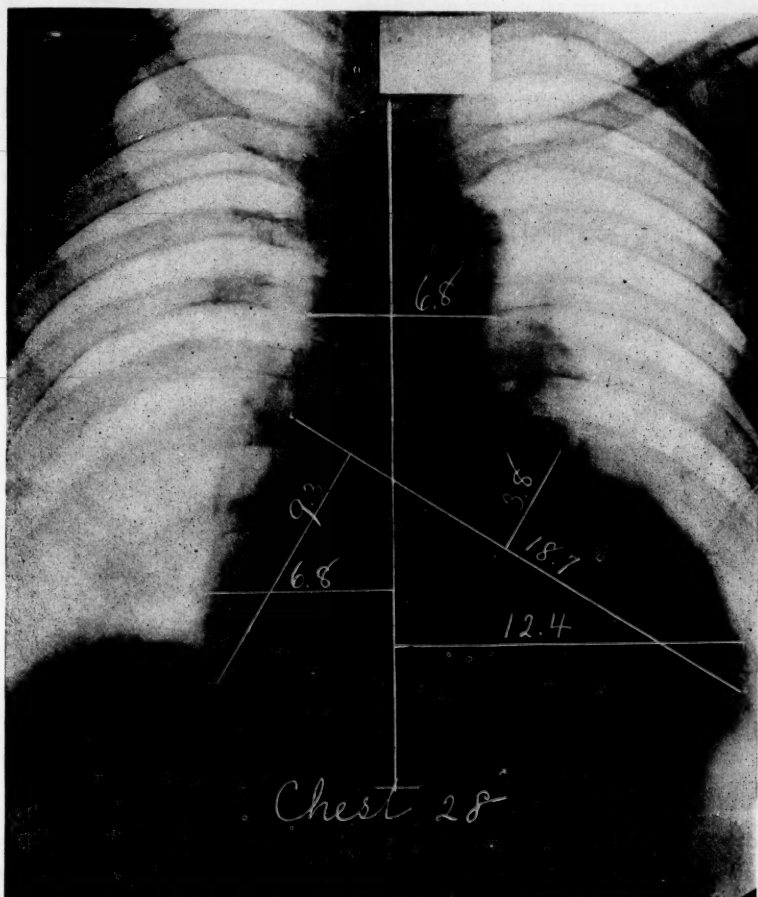


PLATE I. Taken January 4, 1921. Shows considerable increase in the hilus shadow on both sides, apparently due to glandular enlargement. The heart shadow is enlarged in all diameters. The greatest increase is in the region of the left ventricle. The supracardiac dullness is increased, 4.8 cm.

transverse diameter, part of its width being due to the position of the heart. There was however probably some actual increase in the heart measurements here. The supracardiac shadow was not beyond normal limits in width. (See Figure 3.) August 4 he showed much general improvement and was stronger. He

and pain in the right chest. The lungs showed no dullness or râles. There was emphysema. The apex impulse of the heart was in the sixth space, the anterior axillary line. There was a systolic murmur at the apex and a diastolic blow at the left border of the sternum. Pulsation at the left of the lower sternum continued

very prominent. The treatment in the South Medical Department was continued. In the South Medical Department it was found that his wife had a moderately positive Wassermann and two of the children strongly positive Wassermanns. They were all entered as patients in the South Medical Department.

February 16, 1922, there was an elastic pul-

cumbency. Electrocardiogram showed normal rhythm, rate 90, left ventricular preponderance, aberration? An X-ray plate taken February 20 is shown in Plate II.

April 13 he was gaining weight and strength, but had a heavy feeling over the heart and still had pain over the precordium on cough. The cough was not marked. He had taken no

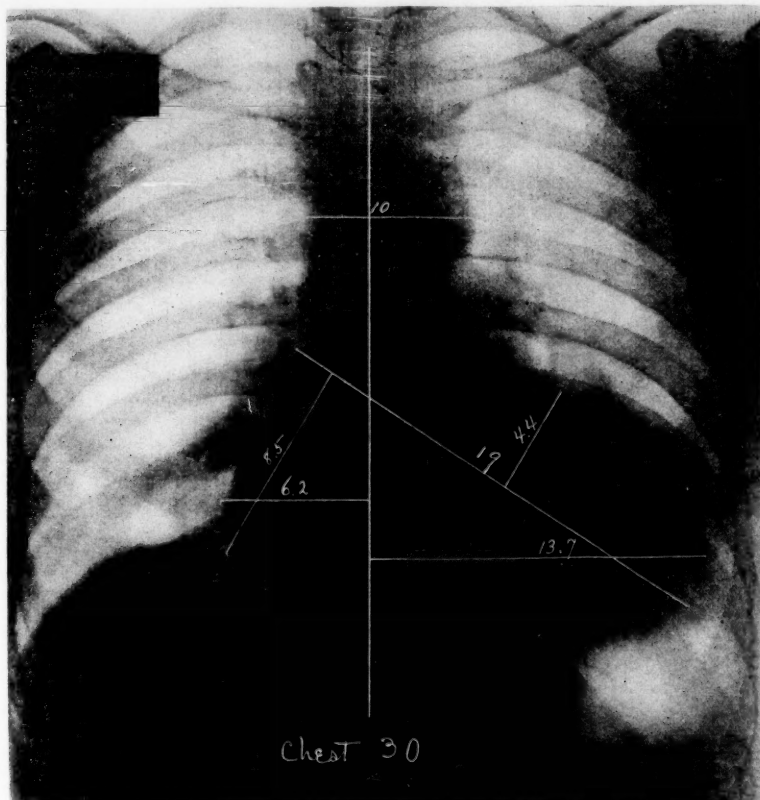


PLATE II. February 20, 1922. The supracardiac dullness is now 10 cm.

satile tumor 3 cm. in diameter in the center of the sternum at the level of the third space and the fourth rib. This was slightly tender and was elevated about 1 cm. above the level of the sternum. A diastolic shock and thrill were felt over and above the tumor. At the apex was a blowing systolic murmur, not masking the first sound, and a faint early diastolic murmur. Over the tumor was a loud blowing diastolic murmur following a sharp second sound heard less well along the left sternal border. There was no change of sounds on re-

potassium iodid or mercury for two weeks and thought he felt worse without these drugs. The tumor seemed larger. It measured about 6 cm. transversely and $3\frac{1}{2}$ cm. in the vertical direction. The murmurs and thrills were as before. The rhythm was normal. Pulsation was most marked at the right end of the tumor. The definite increase in the size of the mass was due to its spread to the left. The area of prominent pulsation in the center of the sternum, which was the site of the tumor when first seen, now made up simply the right end of the

tumor mass, the main body of which was at least superficially of bony structure. May 18 his only complaints were cough and substernal pain, never very marked. During the past six months he had had nineteen doses of 0.15 gram of neodiarsenol. Just prior to that he had seven doses of gray oil. Dr. C. Morton Smith now advised more mercury. The pulsating tumor was now 5 cm. in the vertical and 7 cm. in the transverse measurement, $1\frac{1}{2}$ cm. outward from the chest. He continued treatment in the South Medical Department, feeling much better when taking antiluetic treatment. August 24, 1922, he had very little pain in the region of the tumor. He walked slowly without trouble. His feet did not swell. The tumor had grown steadily. He had no cyanosis and looked fairly well. The apex impulse was heaving. Systolic and long blowing diastolic murmurs were heard over the base, particularly over the tumor. The tumor was now much larger, 7 by $8\frac{1}{2}$ cm. and $2\frac{1}{2}$ cm. high, pulsating. In reply to a question as to operation Dr. E. P. Richardson gave it as his opinion that the amount to be gained would hardly justify the procedure. He referred to the effect on coagulation from the use of sodium citrate by Neuhoff, *Annals of Surgery*, July, 1922, as of interest with respect to this case.

September 21 the patient reported no further symptoms. There was slight discomfort over the tumor. He could walk upstairs slowly without trouble. Examination showed no edema or cyanosis. The pulsating tumor was now 10 cm. long, 8 cm. wide and 3 cm. high. The apex impulse was 17 cm. to the left of mid-sternum in the sixth interspace in midaxilla. He was told to continue mercury and potassium iodid.

In November, 1922, he died.

DISCUSSION

BY DR. PAUL D. WHITE

I was asked to discuss a case today for two reasons: first, for comparison with the case which Dr. Porter has just shown, and second, to discuss the treatment of aneurysm. I shall take one case up at length and shall refer to two or three others briefly.

I imagine this man was referred to the Surgical Department because of the accident four years ago, to see whether the shot in the left chest might account for the pain which had developed in the right. Later on we shall see that there is no evidence of a bullet in the chest by X-ray and no particular reason why the wound four years previously had any relation to his present illness.

Dr. Holmes, what would you consider the limit of normal supraaortic dullness?

Dr. HOLMES: We have usually thought six centimeters was about the normal. Of course it is quite a variable figure, but I should think this might be normal.

Dr. WHITE: Apparently there was no difference in the blood pressure on the two sides. I believe this was at the time when Dr. Golden was studying the shadows in the mediastinal spaces. This probably means in the anterior part of the chest.

Dr. HOLMES: There is a sign which he was trying to demonstrate, seen when there is adherence between the heart and the pericardium. The patient is placed in the lateral view and takes a deep breath. Instead of the heart's moving down with the diaphragm as it normally should and the spaces between becoming brighter, the reverse takes place; the heart moves up with the anterior chest wall and the space between does not change. That is what he is trying to show, apparently.

Dr. WHITE: Apparently this was a therapeutic test of digitalis. Is there any record of his having been discharged relieved?

MISS PAINTER: It is not recorded.

Dr. WHITE: Ventricular preponderance +20 means a moderate degree of swing of the axis to the left. P wave wide and notched may or may not mean auricular hypertrophy.

What was the size of the doses of diarsenol?

MISS PAINTER: The first was .1 of a gram, the second .125 of a gram, the third .15, the fourth to the eighth .2 of a gram each.

Dr. WHITE: They gave him doses up to .2 of a gram each week.

The supraaortic dullness is practically the same as it was before. The electrocardiogram shows the same condition as before.

As I recall him in April, 1922, he was very much better than he had been a year earlier.

DIFFERENTIAL DIAGNOSIS

So far as I know the immediate reason for death is not known. It is possible that he may have had rupture of the aneurysm. He died at home.

This case was of much interest because of our observation of him during the full time of the appearance of this tumor due undoubtedly to aneurysm of the ascending aorta in a lower position than the case of pulsating metastatic tumor of the upper sternum reported by Dr. Porter.

The treatment of this patient afforded much relief apparently symptomatically, but it seems unlikely that it changed the course or duration of the disease. It is possible that the aneurysm would have appeared sooner and death would have come earlier without treatment. But it was very discouraging to observe the speed with which this aneurysmal pulsation over the sternum progressed.

Dr. HOLMES: There is no possibility that that aneurysm is traumatic?

Dr. WHITE: I do not believe so. He certainly had lues. He had aortic regurgitation. He was the right age. And there was an interval of four years between the wound and the first symptom.

DR. CABOT: Where did the bullet go in, Dr. White?

DR. WHITE: It says here it went in the left chest at the side about the level of the sixth rib. I imagine it was pretty well in the axilla. There was never any bullet shown by X-ray.

DR. HOLMES: His aorta did not show much evidence of dilatation. It would be unusual to have luetic aneurysm without enlargement.

DR. WHITE: Isn't it characteristic of aneurysm of the ascending aorta that we may not have so much abnormality of the arch? The aorta may be cone-shaped, with the aneurysmal sac above the heart and not to the right as it sometimes is; it might exist without much change in the arch or the descending aorta. We did not feel that the condition could be explained by an aneurysm of the heart itself.

There have been two striking cases in the wards lately for comparison with this patient. The first was a man recently admitted for the second time to the South Medical Department. He had been previously admitted December 3, 1919, when a diagnosis of specific aortitis and aneurysm was made. There was evidence then that he had pressure on the recurrent laryngeal nerve. He had marked cardiac symptoms. The supracardiac dullness by X-ray measured 13 cm.; the total transverse measurement of the heart was 16.4 cm. He was seen by the medical service and given a few months to live. He was discharged by the South Medical service December 7, 1919, to the Out-Patient clinic and for two years was given iodids and two courses of diarsenol consisting each of six intravenous injections of one-tenth of a gram. He improved steadily. Between 1921 and 1925 he had no treatment other than a very little iodid at the most. He had occasional pain and some dyspnea. On December 24 he had an attack of grippe and was unable to work for nine months. Since that time he has had pains in the arms, legs, and occasionally over the heart, then headache and vertigo, which were his chief complaints on entry. This time there was practically no disturbance so far as his heart was concerned. He himself considered, and it was obviously true, that he was in better condition than at his previous admission in 1919. He had had much less treatment than the other patient. He was apparently in worse condition, yet here he is six years later in fairly good condition. He still shows the same findings by physical examination and X-ray of syphilitic aortitis and aneurysm of the aorta.

Still another patient, more remarkable still, came into the hospital February 1909 complaining of pain in the left chest and inability to sleep. Under potassium iodid there was marked improvement. He showed a large heart. A diagnosis of thoracic aneurysm or mediastinal tumor was made. He took simply potassium

iodid at first. In November, 1910, there was, as shown by X-ray in the Out-Patient Department, a large pulsating tumor above the heart ten centimeters in transverse measurement. In June, 1911, he was very well, and running a knitting machine ten hours a day.

His second admission to the house was in February, 1913. He had been so well that he had often omitted potassium iodid. He came in complaining of a lump in the right abdomen for a year and a half. He showed a large heart with marked increase in supracardiac dullness, and the X-ray showed the shadow of the great vessels as large as the heart itself. Bismuth enema showed the large colon obstructed and the large bowel dilated beyond this. He was given potassium iodid and mercury salicylate for a short time.

DR. CABOT: What was happening to his bowel?

DR. WHITE: A diagnosis of gumma of the liver was made at that time. I have only a brief summary here and don't know what other conditions examination may have shown. He was not seen surgically. Apparently they did not believe that the bowel obstruction amounted to anything.

His third admission was in April, 1925, sixteen years after the first, when the diagnosis of aneurysm was again made, at the age of sixty-three. He had felt quite well until six months before. He entered for dyspnea, insomnia and edema. He lost a good deal of edema even overnight under rest and digitalis. A diagnosis of arteriosclerotic and luetic heart disease with aortic regurgitation, congestive failure, angina pectoris and aneurysm was made. He was discharged last spring on a daily dose of digitalis. He had had much less treatment than the other two cases and had done even better.

Of two other cases that we have had recently, one, followed for seven months, died with aneurysm of the ascending aorta having not had arsenamin but having been on mercury and potassium iodid a good deal of the time. He was never relieved either symptomatically or as shown by physical signs.

The last case I want to mention is a man who is now being followed. He has received some bismuth. In treating him there has been a question of wiring the aneurysm. He has an aneurysm of the ascending aorta. The signs of this aneurysm are most marked just to the right of the lower sternum in the third and fourth interspaces. The signs are so marked there that when brought to the hospital there was some thought of his having dextrocardia, because the aneurysmal pulsation was more marked than the pulsation of the heart's apex itself.

In looking over the literature I have found a great difference of opinion as to treatment of cardiovascular lues, some feeling that arsenic

should not be used, some that it should be used only in small doses, and some that it should be used in large doses. There does not seem to be much difference in the results that we have seen here. There are enough favorable reports, however, from groups treated intensively with arsenic to make one feel that possibly the danger of such therapy has been overestimated. If we start gradually with small doses of arsenic it is probable that the results will be better than by giving mercury and potassium iodid alone.

Bismuth has come into use recently and has been advised in such cases as these. It ranks halfway between mercury and arsenic as an antiluetic drug. The effect is not so rapid as with arsenic, and yet more satisfactory apparently than mercury. It is possible that with more vigorous antiluetic therapy some of these cases might have been helped. Yet one of the cases cited was apparently not helped very much by antiluetic therapy, and two other cases did well in spite of antiluetic treatment.

DR. CABOT: Have you ever in your own observation seen a case of syphilitic aortitis, with or without aneurysm, in which you were clear that antiluetic treatment had helped? On the basis of your own experience would you be able to recommend any man to take it?

DR. WHITE: Once in a while there is a patient who is apparently helped symptomatically so much that I feel that it should be given as a matter of routine, at least to see if there may result relief from some of the symptoms. That was particularly true of the first case I have discussed today. There was relief of symptoms even though the aneurysm grew under our eyes.

DR. CABOT: Isn't it quite possible that the relief came from the growth,—a decompression effect?

DR. WHITE: It is possibly true too that after the erosion of the sternum had largely ended and the aneurysm had made its opening there was some relief from the pain.

DR. PORTER: We see that in malignant disease. The patient complains a lot of pain when it begins, and when the nerves are destroyed there is less.

DR. CABOT: Isn't decompression a perfectly reasonable operation in aneurysm?

DR. PORTER: I think I should very much prefer to leave the sternum alone and by injecting alcohol into the intercostal nerves anesthetize them, and prevent the pain.

DR. MEANS: Don't you see patients with syphilitic aortitis without aneurysm who have typical attacks of angina pectoris where the attacks decrease quite markedly when antiluetic treatment is instituted?

DR. WHITE: Yes. I have seen some; I don't recall what percentage. Others have not been helped at all, and the question of cervical sympathectomy has come up in such patients. They are a poorer risk than patients who have not syphilis.

I feel that antiluetic therapy should be used, starting with small doses, working up gradually when arsenic is begun,—one-tenth of a gram, working up probably to three or four-tenths of a gram in weekly injections for eight or ten doses, followed by mercury, and then the course repeated. I think that therapy, from our experience here and from reports in the literature, should be tried, even though it is often unsuccessful. The prognosis in untreated cardiovascular lues is usually so very grave that the risk of antiluetic therapy is fully justified.

DR. MEANS: I remember a case in the Out-Patient Department with fairly frequent and typical attacks of angina which stopped in quite a remarkable way as soon as antiluetic treatment was begun.

DR. WHITE: Sometimes the mercury, or even potassium iodid alone, seems to help. Sometimes the relief comes only when the patients receive arsenic. Sometimes serious damage is done and congestive failure precipitated partly as a result of the reaction from too large doses of arsenic, and some cases are on record of rather sudden death following injection.

DR. MEANS: What is the sudden death due to? rupture?

DR. WHITE: I don't know. I recall one case sent to me from the South Medical service whom I was about to examine. He died before I could even put my stethoscope on his chest in the cardiac clinic. It was a very dramatic death. He was talking to me. We injected adrenalin into his heart, but were not able to revive it.

DR. CABOT: Dr. Richardson, you saw two of these cases of Dr. White's?

DR. E. P. RICHARDSON: I saw one of Dr. White's earlier cases with reference to wiring, and at that time did not feel disposed to undertake it. Where it comes to the question of the surgical treatment of thoracic aneurysm it is

practically a question only of wiring, and that is a procedure that has never become definitely established, although good reports have been published by Hare in this country and by Sir D'Arcy Power in England. Two cases have been done in this hospital of thoracic aneurysm, and both of them died. I think that while it is something to be considered, there are certain definite indications which are very important to take into account. In the first place it must be a sacular aneurysm, not a diffuse dilatation of the aorta. Otherwise, if it is a diffuse dilatation of the aorta, the wire may go into the heart or the general circulation. In the second place it should be adherent to the chest wall, so that we do not puncture the aneurysmal sac through the pleural cavity. Otherwise there might be blood leakage into the pleura and death in that way. Then again the condition should be progressive, the patients getting definitely and rather rapidly worse. Dr. White has shown that some of these cases may go on comfortably for a very long time, and the procedure is so uncertain and possibly so dangerous that there is no reason for undertaking it except under definite indications.

Then again, if the skin were thin over the sac we should not want to undertake it on account of the possibility of sepsis and leakage. If the case is progressing rapidly and going from bad to worse in spite of antilutetic treatment it seems to me a justifiable thing. It also seems to me probable that it is safer simply to wire and not to use electrolysis. I think it is too much to hope that we might get a coagulation that should relieve the situation, but we might hope for an increased deposit of a clot and thickening of the sac wall and so a less rapid progress of the disease.

In the last case, the aneurysm of the ascending aorta, it seemed to me from the extension of the process and the symptoms that wiring was justifiable, and I was rather inclined to advise it. The only case I have actually done has been an aneurysm of the innominate, and there wiring was relatively safe because both the carotid and the subclavian arteries were tied off and we could not get a clot carried to the brain or down into the arm. In this case there was no effect or pulsation in the aneurysmal sac, or at least there was not a month after operation. It did serve one useful purpose. It outlined the

aneurysm and showed that we had a definitely sacular type which could be perhaps cured by ligation. Dr. Holmes I think will tell us that X-ray was very useful during the wiring of that aneurysm, and I think that X-ray would also be very useful in any attempt to wire an aortic aneurysm.

DR. CABOT: Was the case of Dr. White's in which you thought a wiring possible a sacular aneurysm?

DR. RICHARDSON: We could not tell definitely, but there was a wide extension, and it seemed to me probable that it might be sacular, and with Dr. Holmes' help I was ready to go ahead.

DR. WHITE: There was a shadow to the right at an angle with the general heart shadow, pulsating almost out to the right nipple.

DR. CABOT: One of the things that amazed me the other day in the case where there was a wire going through the aorta down to the apex of the heart—they could see the wire there for several days with the X-ray—was that it did not cause clotting in the heart. I suppose the current is too swift. It did not seem to bother the man.

DR. WHITE: A good many soldiers during the war got bullets into their hearts which did not seem to worry them.

DR. PORTER: Sir D'Arcy Power inserts a little cannula containing a bundle of wires so arranged that when inside the sac they spring out, like the little Topsy's head. About them the blood clots. There is no risk of a piece of wire entering the heart. The surgeon knows how far it is going and how far it has gone.

DR. HOLMES: I think Dr. Richardson referred to our procedure at the time he was putting in the wire. We had the patient on the fluoroscopic apparatus, and I was able to see the wire in the aneurysm. I watched it go in until he had quite a coil in there. What we were trying to do was to make sure that he did not go beyond the aneurysm into the heart. A plate taken with the same apparatus showed the single wire very well. If we were attempting it again I think a series of plates taken as he introduced the wire would give positive proof whether it was in the sac or whether it had gone on beyond it.

DIAGNOSIS

Luetie heart disease.
Luetie aortitis with aneurysm.
Aortic regurgitation.

Case Records

ANTE-MORTEM AND POST-MORTEM
AS USED IN WEEKLY CLINICO-PATHOLOGICAL EXERCISES

AT THE
MASSACHUSETTS GENERAL HOSPITAL

EDITED BY

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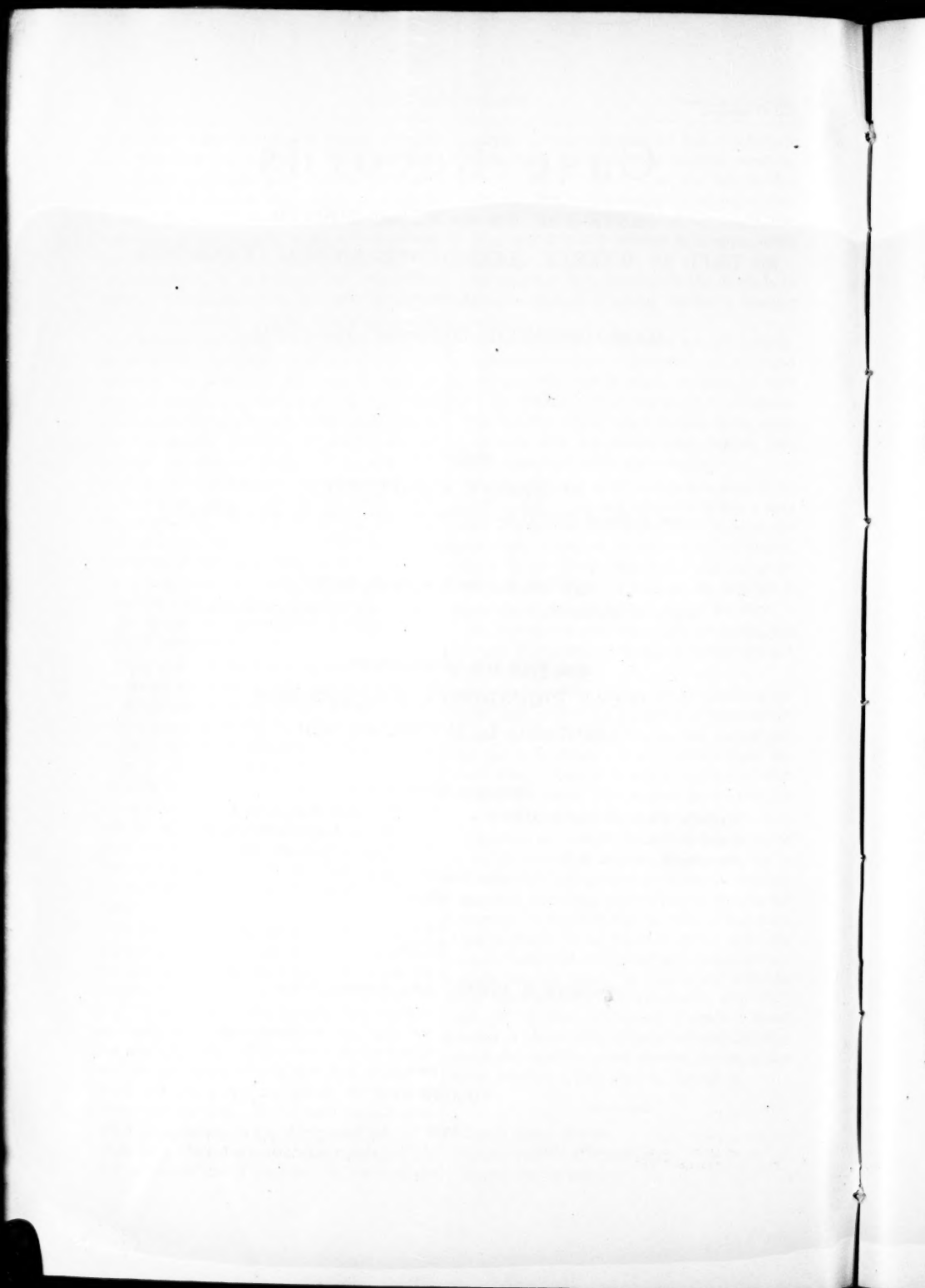
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FLORENCE M. PAINTER, A.B., Assistant Editor

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MENTAL DISEASE IN THE UNITED STATES

THE *American Journal of Psychiatry* for October, 1925, publishes an interesting analysis of institutional admissions for mental disease during 1922, by Horatio M. Pollock, Ph.D., Director of the Bureau of Statistics of the New York State Hospital Commission. The report is based on the census of January 1, 1923, in which, of 526 institutions represented, 163 were state hospitals, 2 were government hospitals, 148 other public hospitals, and 213 private institutions. The resident patients numbered 267,617, and those on parole or temporarily absent from the institution, 22,839. The study is based on 63,624 first admissions whose environment, sex and age were reported on uniform schedules.

These admissions are divided into four groups throughout the study: urban and rural males and females, and the general average rates per 100,000 population for all ages combined in the several groups are as follows: Urban males, 89.6; urban females, 67.8; rural males, 46.4; rural females, 35.5. Cases are further divided diagnostically into senile psychoses, which, of course, constitute an advanced age group; cerebral arteriosclerosis, also a dis-

sease of advanced life; general paralysis, with its onset in middle life; alcoholic psychoses, predominating among the males, and particularly in the urban group; dementia praecox, the largest group, with its onset comparatively early in life; manic depressive cases, predominating among urban females, with rural females closely approaching the rate, the peak of incidence being in middle life; involution melancholia; and psychoneuroses and neuroses, with a very high rate for urban males in the age periods between 20 and 25 years. Ex-service men have contributed largely to this group.

Dr. Pollock concludes that "Mental disease in the future will be largely a city problem. Syphilis and alcoholism can and should be eradicated. But aside from these it appears that the complexities of our large cities require more adjustments than many individuals are equipped to make. To better the situation it will be necessary to strengthen the individual and to lessen the stresses of city life. To accomplish this task will require the united efforts of parents, teachers, physicians and social and research workers on the one hand; and of employers, industrial leaders, city managers and economists on the other."

LESS OBJECTIONABLE MEDICAL ADVERTISEMENTS

It is indeed encouraging to learn from the article written for *The Nation's Health* by Holland Hudson, Representative of the National Better Business Bureau of the Associated Advertising Clubs of the World, that the type of medical advertising to which we all object is also in bad repute with this wide-spread and influential organization. The situation in regard to the advertising of remedies for self-diagnosed diseases has been steadily improving. The Pure Food and Drugs Act and the campaign of the American Medical Association against fraudulent advertising have done away with many of the most flagrant violations of decency and truth. Far too many of these violations still persist; it seems impossible to eradicate them by pressure from the outside.

There has come to the aid of those who would purge the press of such advertisements a new force, characterized by the Honorable Victor Murdock as "The quickening conscience of commerce." Upon close analysis, the acceleration of the commercial conscience appears to be due chiefly to financial stimulation, for as Mr. Hudson very honestly says, "The interest of organized advertising in the subject of medical frauds is different from that of the medical profession. The growing conviction among advertisers and among outstanding newspaper and periodical publishers is that not only do medical frauds cruelly victimize the invalid, but they undermine the good will which intel-

ligent persons, both sick and well, have for advertised commodities of all kinds. It is upon such a basis that the advertisers' definition of medical frauds is constructed." In other words, fraudulent advertising of remedies, looked at from a broad point of view, does not pay. Once this idea is accepted by business men, it may bring about results which opposition based upon more altruistic motives could never produce. At any rate, let us welcome it as an ally in a good cause.

CHARGES THAT DOCTORS ARE DRUG ADDICTS

WILLIAM D. ALLEN, JR., Federal Narcotic Agent, in an address before the Women's Republican Club of Massachusetts delivered December 9, according to the *Boston Herald*, affirmed that more than 300 New England physicians are drug addicts. Among this number are "*men of the highest professional and social standing.*"*

Mr. Allen hides behind the statement, "Nor was he permitted by law to divulge their names."

Aside from the cases of those doctors who are obliged to use narcotic drugs to assuage the pain of disease, we seriously doubt the truth of the assertion made by Mr. Allen. We also doubt his good intentions, for if these men are practicing, there are, we believe, ways by which Mr. Allen could have investigations made and if there is unlawful use of narcotic drugs, these men could be restrained from practicing. We can see little excuse for the statement before a political organization at the present time and unless Mr. Allen disclaims the accuracy of the report or shows some activity which would tend to correct this wrong, we shall be in doubt as to his purpose in making the statement.

If doctors are under the influence of narcotic drugs while engaged in the practice of medicine, they should be restrained from attempting to treat diseases, for the safety of the patient is in peril.

The Board of Registration in Medicine has full power to deal with such cases and is ready to meet the obligations imposed by the law.

*Italics are ours.

MORE TROUBLES FOR THE COLLEGE OF PHYSICIANS AND SURGEONS

THIS institution has been subject to the annoyance of drastic criticisms by students of the problems of medical education. It has failed to meet the standards of the Council on Medical Education and is discredited by nearly all of the States of the Union. Many of its graduates have been its severest critics. Now comes the City of Boston and finds that the physical condition of the building now used

by this College is open to criticism. The papers report that certain regulations imposed by the authorities have not been complied with and the City, through its officials, has applied for an injunction restraining the College from using the building as it now exists.

In a recent suit against this College for damages resulting from the administration of bichloride of mercury by Dr. Fenelon who was connected with the college the verdict of the jury awarding damages was sustained. The Supreme Judicial Court holds that it was an institution which could fairly be said to be operated for the personal gain of those connected with it, and hence was liable.

This College has been controlled very largely by one person. Only four students were in the last graduating class. The small number of students and the poor condition of the building seem to indicate the probability of early retirement from the field of medical education.

THIS WEEK'S ISSUE

Contains articles by the following named authors:

JOHNSON, CHARLES K., M.D. University of Vermont School of Medicine 1899; Professor of Pediatrics, University of Vermont. The title of his paper is "The Use of Acidified Milk in Infant Feeding," page 1231.

MONTGOMERY, DOUGLASS W., M.D. Columbia University College of Physicians and Surgeons 1882. Dr. Montgomery is a Dermatologist of San Francisco and writes on "Streptococcal Infection of the Anterior Angle of the Naris," page 1232. His co-author is

CULVER, GEORGE D., M.D. University of California Medical School 1903. Dr. Culver also is a San Francisco Dermatologist.

ANDERSON, J. GORDON, B.S. Rhode Island State College; M.D. Harvard Medical School 1921. Dr. Anderson served as Intern at the Boston City Hospital and was Fellow in Surgery at the Mayo Clinic. He is now a member of the Surgical Staff of the Westerly Hospital, Westerly, R. I. His subject is "Novasurol: An effective agent in relieving the ascites complicating cirrhosis of the liver," page 1234.

ARGY, WILLIAM P., B.S.; M.D. Georgetown University School of Medicine 1922; Instructor in Clinical Medicine, Georgetown University Medical School; Attending Physician, Georgetown University Hospital. He reports on "An Unusual Case of Hyperglycaemia (1.71%) with Coma; Associated with an Absence of Acetone in the Urine," page 1236.

TROUPIN, ABRAHAM S., M.D. Tufts Medical School 1918. At present Instructor in Obstetrics at Tufts Medical School and Assistant Obstetrician at the Evangeline Booth Maternity

Hospital. His subject is "Interstitial Pregnancy," page 1237.

STECHER, ROBERT M., M.D. Harvard Medical School 1923. Dr. Stecher is a Medical Intern at the Peter Bent Brigham Hospital and writes on "Recurrent Oculomotor Paralysis," page 1239.

THOMPSON, HOWARD K., A.B. Colgate; M.D. Boston University School of Medicine 1922; Assistant, Department of Pathology, Boston University School of Medicine. Dr. Thompson reports a case of "Anencephalic Monster—One of Twins," page 1241.

MISCELLANY

NEUTRAL RED TEST IN PERNICIOUS ANEMIA

DR. J. H. BOGLE of Collinsville, Alabama, has written us as follows: "Will you please be kind enough, in the next issue of your JOURNAL, to describe fully the neutral red test mentioned in Case 11482—Page 1028—issue of November 26, 1925."

Dr. Maurice Fremont-Smith, who mentioned the neutral red test in pernicious anemia in his discussion of Case 11482, refers us to the article by P. B. Davidson, E. Willeox and C. D. Haagenson, Gastric Excretion of Neutral Red, *Journal of the American Medical Association*, September 12, 1925, page 794. Dr. Davidson will send reprints of the article upon request; address Boston City Hospital, Boston.

CHARTS SHOWING POSTURE STANDARDS

THE Children's Bureau of the U. S. Department of Labor will issue early in 1926 a set of six charts on posture standards for boys and girls, intended for the use of physicians, nurses, physical education teachers, and clinics.

The charts were planned on the basis of extensive observation and measurement of school children by Dr. Armin Klein of Boston, who is in charge of posture clinics for the Massachusetts General Hospital and the Department of Health of the city of Boston. They will be useful, it is believed, in affording visual illustrations of posture types and groups for purposes of classification and comparison. In devising the charts it has been recognized that there are certain distinct types of physique and that the standards of good and bad posture must be considered in relation to the physical type. Three types of figures are shown for both boys and girls—the thin, the intermediate and the stocky. Each chart shows four silhouette figures illustrating ex-

cellent, good, poor, and bad posture for one type of girl or boy.

Descriptions of the distinguishing characteristics of excellent, good, poor, and bad posture are printed on each chart. In excellent posture, the charts point out, the head is *up* and the chin *in*; in good posture the head is *slightly forward*, in poor posture it is *forward*, in bad posture it is *markedly forward*. In excellent posture the chest is *up* and the breast bone is the part of the body farthest forward, in good posture the chest is *slightly lowered*, in poor posture it is *flat*, in bad posture it is *depressed or sunken*. In excellent posture the lower abdomen remains *in* and *flat*, in good posture it is *in* but *not flat*, in poor posture it is *relaxed* and is the part of the body farthest forward, in bad posture it is *completely relaxed* and *protuberant*. In excellent posture the curves of the back are *within normal limits*, in good posture they are *slightly increased*, in poor posture they are exaggerated, in bad posture they are *extremely exaggerated*.

Each chart is approximately 24 x 34 inches. A limited number of the charts are available for free distribution, others may be secured from the Government Printing Office for 50 cents a set.

THE FIFTY-FOURTH ANNUAL REPORT OF THE TRUSTEES OF THE WORCESTER CITY HOSPITAL

THE annual report of the Worcester City Hospital contains many things worthy of note. During the year ending November 30, 1924, there were 16,119 patients treated at the hospital. Of this number 7,226 were bed patients cared for at an average cost per capita of \$28.54 a week. 28,280 treatments were given in the out-patient department at an expense of \$.94 a treatment.

Since the war marked advances have been made in the application of occupational therapy. Equipment and accommodations are necessary for developing physio-therapy owing to the great number of industrial accidents treated at the hospital. The work of the Roentgen department has increased from 200 plates made in 1903 to 14,000 films in 1924. The pathological department is carrying out a series of experiments in the Kahn's Precipitin Test. Meetings under the auspices of the Staff Association are held monthly and there are weekly noon day meetings of the medical and surgical divisions for the purpose of reviewing the clinical work and analysing all deaths. During the year contributions to medical literature have been made by six members of the staff.

The hospital now purchases power and light from the Worcester Electric Light Company and fuel oil equipment has been installed in the boiler plant resulting in 50% greater efficiency.

Extensive changes were made in the elevators and in the hospital refrigeration plant. Many needs are set forth in the report such as a new nurses' home, repairs to the heating and lighting systems and the installation of more protection against fire hazards, and other equipment necessary for increased efficiency.

There have been some changes in the medical staff. Doctors Frank T. Oberg, John T. McGillicuddy and Lloyd E. Byrd have resigned and the following appointments made:—Doctors Samuel C. Gwynne, Thomas F. O'Brien, Albert Ginns, Earle E. Fippen, Roy J. Ward, and Enas W. Reidy.

THE WORK OF THE PLACEMENT COMMITTEE OF THE BOSTON TUBERCULOSIS ASSOCIATION

DR. JOHN B. HAWES, President of the Boston Tuberculosis Association and likewise Chairman of its Placement Committee, reports concerning the work of this committee since June 1st, 1925. This Committee was appointed to consider that most difficult and yet most important phase of tuberculosis work—namely that of finding suitable jobs for consumptives in an arrested condition and able to work providing suitable work can be found. The Society of this Committee and the one who does all the field work is Mrs. Anna M. Wright, who has devoted many years to this subject. With her help Dr. Hawes and his Committee have developed a system which is proving to be of very real practical value in this direction.

Whenever a Boston patient is about to leave a hospital or sanatorium for tuberculosis in an arrested or apparently arrested condition, his physician informs Mrs. Wright concerning the details of his case, and the patient himself is instructed to see her at once. If he does not do this Mrs. Wright looks him up. She finds out what work he has done and if it is suitable for him, interviews his employer and arranges for him to go back to his old job if possible. The employer, of course, who is naturally apprehensive about taking a "lame duck" into his employ and particularly a consumptive, must be persuaded that the trained and intelligent consumptive with his disease in an arrested condition is no more danger to those about him than is a man with a wooden leg. Of course Mrs. Wright must see to it that the applicant is kept under strict medical supervision which is one of the difficult phases of the problem. Patients who have left a sanatorium or hospital naturally enough wish to keep away from doctors. They must be taught that this attitude is wrong and that it is not only for the interest of their employers and fellow workmen, but also absolutely essential to their own welfare that such medical supervision be maintained. This means more work and more uni-

ty in the part of the Secretary, to the family physician or to the dispensary when the patient is to be seen. And there are many other problems connected with each case. The interest and help of the man's labor union must be obtained. Often a patient finds his old work too heavy and arduous and has to start in at a lighter job and less pay. The problem of maintaining and keeping his family together has to be met; other men need vocational training and have to be cared for during this period when their earnings amount to little or nothing. Thus it can be readily seen that to do this form of placement work properly and well an immense amount of time, thought, and patient handling and human interest is required.

On June 1st we had forty cases still in the process of investigation, and since then up to November 1st have received 54 more, making 94 cases in all. Of these 94 applicants 26 have been satisfactorily placed; 34 have been disposed of otherwise which means that they were too sick to work and ordered further treatment, or that they found jobs of their own or moved away or settled to their own problems. It is interesting to note that the Industrial Aid Society, Boston's largest charitable employment agency for men, had 58 men handicapped and otherwise referred to it during their period which is only 4 more than the number of men referred to the Boston Tuberculosis who were handicapped by tuberculosis alone. This shows how big a factor tuberculosis is as an industrial disease and an industrial problem.

Again to show the immense amount of work required to do this properly, Mrs. Wright held 59 interviews with either applicant or his physician or employer; she made 59 visits on behalf of the applicants to homes, employers or physicians, and 22 visits to industries or agencies on behalf of the Placement Bureau and finally sent 122 letters and gave 8 talks to various groups concerning this work.

The great needs in this placement work are first some means of getting a good medical history and diagnosis as to the main physical condition, type of disease and his outlook under suitable conditions and especially some way to bring him under good medical supervision. When the Association moves to a home of its own as it hopes to soon, we expect to maintain a clinic of our own to do this work and probably to examine and check up on the children discharged from our Prendergast Preventorium. Until we have some such clinic of our own, however, we are bound to have difficulties as regards to medical supervision.

The second great need is to provide suitable pre-industrial training in all of our hospitals and sanatoria for the tuberculous, by means of which those favorable patients who tend toward an arrest of their disease may get some training even though slight in an occupation or

industry fitted to their physical handicaps and suited to their mental and intellectual abilities. This already exists at the Westfield State Sanatorium where children are taught various useful trades. It is a curious fact, however, that in none of our institutions for adult consumptives is such a department maintained.

I believe that this Placement work our Association is doing is perhaps its most important field of endeavor. We are handicapped by lack of funds but I am sure that when employers, labor unions, and the general public comes to learn about it and realizes how important and practical it is that the necessary money to enlarge its scope will be forthcoming.

ATTLEBORO HEALTH CAMP

(Extract from Report of Supervisor)

THE Attleboro Health Camp, maintained by the Attleboro Tuberculosis Society, opened July 6, 1925, with a capacity attendance of

highest individual gain was $14\frac{1}{2}$ pounds for the six weeks, the lowest was $3\frac{1}{4}$ pounds and the average gain $6\frac{3}{4}$ pounds. The aggregate gain was $268\frac{1}{4}$ pounds. Our weekly records show the rate of gain to be:

1st week	85 lbs.	Average for week	2.1	lbs.
2nd "	$33\frac{1}{2}$	" "	2.97	"
3d "	$40\frac{1}{2}$	" "	3.98	"
4th "	$51\frac{1}{4}$	" "	5.27	"
5th "	$24\frac{3}{4}$	" "	5.88	"
6th "	$23\frac{1}{4}$	" "	6.72	"

Sixteen boys gained in height varying from $\frac{1}{2}$ to $\frac{3}{4}$ inches during their stay at camp.

The camp routine as worked out previous to the opening of camp was followed very closely with two exceptions. The rest periods were the most difficult part of the program of the camp to enforce, especially that of an hour and a half following the noon meal. The boys soon learned, however, that the only safe way to avoid trouble and a subsequent extension of the



forty boys (an increase of 30% over 1924) and a staff of four paid workers. The ages ranged from seven to fifteen years,—the average age was eleven years. No child was admitted who was less than 10% underweight and the weights ranged from 10% to 20% under normal. With the exception of a few with dental defects, the boys were free to pain.

The gain in weight was satisfactory and compares favorably with that noted in other health camps. Every boy in camp showed a gain. The

period was to sleep. And some of them slept throughout the whole period.—others slept part of the period each day. The midmorning and midafternoon lunch of crackers and milk continued popular all through the season, in fact there was never any difficulty in getting the youngsters to drink milk. The daily consumption of milk was seventy-nine quarts. With the increased attendance this year it seemed advisable to discontinue the cafeteria style used in 1924. So the boys were seated ten at a

table and the entire staff was kept busy serving. The menu, curtailed a bit from last year, was ample and of excellent quality.

Contrary to what might be expected with boys so young we had very little homesickness. No boy left or was discharged from camp during the season. Two of the boys who were sick could have been sent home but instead were cared for at the improvised first aid room in the supervisor's house and were shortly able again to "carry on" in camp activities.

Recreation included ring quoits, swings, volley-ball, baseball and other games, hikes, etc. Much interest was shown in the making of boats and bows and arrows and in the construction of telephones. Checkers proved an enjoyable pastime to keep the boys amused and quiet. The books donated to the camp were highly appreciated and in constant use. The boys were allowed to go swimming several times, also to enjoy two picnics,—one to Nippinicket where, through the generosity of the Lions Club, they enjoyed rides on the merry-go-round, and in boats, and were treated to ice cream and wholesome candy,—the other to a health camp in Sharon Heights where the chief feature was a ball game between the two camps.

Parents' Day was held on the afternoon of Wednesday, Aug. 12, 1925. Nineteen mothers attended. Miss Wilson, of the State Department of Health, spoke a few words to them concerning the objects of camp life and suggested means by which the parents could further the good work so well begun by six weeks of such training.

The camp closed on Aug. 15, 1925, after a very successful season.

VIRULENCE OF PREVAILING SMALL-POX IN 1925

The smallpox prevalent in American and Canadian cities during the first six months of 1925 was nearly *four* times as deadly as the type of the disease which occurred in 1923! This year there were recorded 3.5 deaths for each 100 smallpox cases; in 1923, this figure was less than one death per 100 cases. In 1924, smallpox caused 1.5 deaths per 100 cases. The comparative record is shown below:

FROZEN ENDOWMENTS

Physicians and surgeons of New York and the nation have joined forces against "frozen endowments"—funds permanently dedicated to restricted objects and endangered by obsolescence as those particular purposes become antiquated. Urging that endowments for medical research, treatment or education be kept free from narrow limitations and rigid conditions, an appeal has been made public, signed by a distinguished group of medical men, including presidents or ex-presidents of the American Medical Association, the New York Academy of Medicine, the American Surgical Association, the Society of Clinical Surgery, the New York County Medical Society, the American College of Surgeons and the National Tuberculosis Association.

"Death," says the physicians' statement, "may threaten other than animate things. It may overtake endowments left for the perpetual support of objects that become obsolete—static funds in a dynamic world. As medical science advances, endowments should be left sufficiently flexible to permit their keeping pace with the progress of the profession."

William J. and Charles H. Mayo, famous surgeons of Rochester, Minn., and George W. Crile of Cleveland are among the sponsors of the appeal. New York participants include George Emerson Brewer, Samuel A. Brown, Charles L. Dana, D. Bryson Delavan, Arthur B. Duell, Walter B. James, Emanuel Libman, James A. Miller, Bernard Sachs, J. Bentley Squier, George D. Stewart, William B. Thompson, and Linsly R. Williams.

Institutional orphanages—frequently with endowments attached have multiplied, the doctors state, at the rate of one about every fifteen days over a thirteen year period. But the supply of orphans to fill them, they add, shows signs of diminishing, due to the effect of the campaigns against typhoid fever, tuberculosis and other causes of death in middle life, in decreasing the mortality of parents during the infancy of their children; to the results of mothers' pensions in preserving children from becoming institutional dependents; and to the

CASES, DEATHS AND CASE-FATALITY RATES, SMALLPOX, IN 643 CITIES IN THE UNITED STATES AND CANADA, FIRST SIX MONTHS OF 1923, 1924 AND 1925

Area	1925			1924			1923		
	Cases	Deaths	Deaths per 100 cases	Cases	Deaths	Deaths per 100 cases	Cases	Deaths	Deaths per 100 cases
United States and Canada (643 cities).....	12,306	431	3.5	18,163	268	1.5	6,052	55	.9
United States (556 cities).....	11,816	430	3.6	17,463	245	1.4	5,695	54	.9
Canada (87 cities).....	490	1	0.2	700	23	3.3	357	1	.3

Statistical Bulletin, Metropolitan Life Insurance Company.

trend toward the placement of orphans in private homes rather than in orphanages.

"Without deprecating the excellent work of many 'asylums' for orphans," continues the statement, "it appears demonstrable that changes in the size and nature of the problem and in the manner of caring for dependent children has tended to lessen the necessity for new orphanages, as compared with other urgent social needs."

The elasticity of the Community Trust plan for the administration of permanent funds for public purposes is commended by the doctors as a means of forestalling the obsolescence of endowments. Dr. Walter B. James, 7 East 70th Street, ex-president of the New York Academy of Medicine and former professor of clinical medicine at Columbia, has accepted membership upon the Distribution Committee of The New York Community Trust by appointment of the President of the Academy of Medicine, in response to an invitation from the trustees of the Trust.

Under the Community Trust procedure, various financial institutions agree to hold and invest the principal of endowments, but to disburse the income only as directed by a central Distribution Committee. This Committee executes the wishes of the original founders, and has power to effect such amendments in the provisions of the grant as may be made advisable by unforeseen changes in conditions.

Dr. W. J. Mayo, founder of the internationally known Mayo clinic, is particularly emphatic concerning "the work of The New York Community Trust in attempting to obviate the futility and litigation that comes from 'frozen' endowments."

"I have been," he says, "a regent of the University of Minnesota since 1907. Very often the University has received gifts which were limited by certain outstanding conditions, most desirable when imposed, but which have become so 'frozen' by changing times as to defeat the purpose of the giver. At the present time the regents urge every donor to the University, in framing the terms of gifts, to allow sufficient latitude to carry out the spirit without confining the executors to the letter. In no case have we failed on simple explanation to convince the donor of the desirability of this provision."

The doctor's declaration regarding the defects of rigid endowments follows a similar pronouncement some weeks ago signed by prominent lawyers, including John G. Agar, Paul D. Cravath, Julius Henry Cohen, James R. Garfield, Newton D. Baker, Ralph Jonas, George Welwood Murray and Roscoe Pound.

Alvin W. Krech, chairman of the Trustees Committee of the Community Trust, 120 Broadway, said:

"Gratifying as these generous judgments of the legal and medical professions are, the or-

ganizations participating in The New York Community Trust can claim no credit for originating the plan. We adopted what had already been formulated in the Middle West, but with the amendment that the trust here should be formed by many institutions instead of only one, so as to be, in fact as in name, a community enterprise. Ten banks and trust companies are represented upon our Trustees' Committee and more will be added."

The trustees of The New York Community Trust are the American Trust Company, Chase National Bank, Coal & Iron National Bank, Equitable Trust Company, First National Bank of Brooklyn, Kings County Trust Company, Manufacturers Trust Company, Seaboard National Bank, Title Guarantee & Trust Company and the United States Mortgage & Trust Company.

The statement of the physicians is as follows:

The medical profession combats disease and death. . . . But death may threaten other than animate things. It may, for example, overtake endowments left for the perpetual support of objects that become obsolete—static funds in a dynamic world.

The changing status of medical education, or of the treatment of the sick or of the care of defectives, makes this influence of "the dead hand" a matter of particular concern to physicians and surgeons. As medical science advances, endowments for these purposes, instead of being confined to institutions or methods of a particular period, should be left sufficiently flexible to permit their keeping pace with the progress of the profession.

The income of one middle-western estate was ordered apportioned each year forever among local hospitals, solely upon the basis of the relative number of patients treated by each. Some might attain high standards; others might descend to mediocrity. Some might employ funds skilfully; others might use theirs wastefully. Nevertheless and for all time, the size of the appropriation for any hospital, regardless of the quality or the emergency nature of its work, must depend wholly upon a quantitative measure—the length of its list of patients.

During 13 years—to cite another instance of funds in danger of paralysis—institutional orphanages in the United States have increased at the rate of one about every fifteen days. Meanwhile the supply of orphans to fill them has shown signs of diminishing—this for the reasons that:

1. The campaigns against typhoid fever, tuberculosis and other causes of death in middle life promise a decrease in the number of fathers who die in their children's infancy.
2. In the cases of those fathers who do die, an increasing proportion of their children

escape dependence through mothers' pensions and widows' allowances.

3. In the remaining cases of dependent children, placement in private homes is proving both less expensive and more effective than constructing additional institutions.

Without deprecating the excellent work of many existing "asylums" for orphans, it appears demonstrable that changes in the size and nature of the problem and in the manner of caring for dependent children has tended to lessen the necessity for new orphanages, as compared with other urgent social needs.

Once these established endowments have taken rigid form, it becomes exceedingly difficult to recast them, however desirable their revision may be. But newly created endowments have now available a simple means of anticipating this danger of obsolescence. To meet the general problem of "frozen endowments," there has been instituted by prominent individuals, societies and institutions in New York and elsewhere, the plan of the Community Trust. It provides a method of bringing together endowment funds of whatever size, giving them permanent administration, and preserving them from becoming moribund. Each fund, large or small, constitutes an independent memorial. Each is placed for investment and safekeeping with any one of various national banks and trust companies, acting as Trustees of the Community Trust. And each has all the expenditures of income from it supervised by a central Distribution Committee, which serves as a perpetual representative of every donor in effecting whatever variations changed conditions hereafter may make advisable in the applications of income.

The President of the New York Academy of Medicine—and likewise the Presidents of the Chamber of Commerce and the Association of the Bar—names a member of this Distribution Committee. As an illustration of the Committee's operation, it is now applying to the support of the Visiting Nurse Service the income of a half million dollar memorial founded by Mrs. Felix M. Warburg in honor of her late father, Jacob H. Schiff. But if ever the Nursing Service becomes non-existent, or if adequate support comes from public taxation, or if other similar contingencies arise, the Committee is empowered and instructed to carry forward the general charitable intentions of the founder, in the light of the changed circumstances.

This brief sketch is intended to outline the objects and mechanism of The Community Trust to physicians and surgeons, whose advice is frequently sought upon other than medical matters. A more detailed description may be secured from Dr. Walter B. James, 7 East 70th

Street, New York, a member of the trust's Distribution Committee by appointment of the President of the Academy of Medicine, or from the Director of the trust at 120 Broadway, New York. The persons sponsoring this statement—being persuaded that The Community Trust provides a more effective method than has heretofore been available for the administration of permanent funds, whether left for general public purposes or for more specific purposes relating to medical treatment, research or education—commend it to the consideration of the members of the profession.

GEORGE EMERSON BREWER, M.D.
SAMUEL A. BROWN, M.D.
GEORGE W. CRILE, M.D.
CHARLES L. DANA, M.D.
D. BRYSON DELAVAN, M.D.
ARTHUR B. DUEL, M.D.
EMANUEL LIBMAN, M.D.
CHARLES H. MAYO, M.D.
WILLIAM J. MAYO, M.D.
JAMES A. MILLER, M.D.
BERNARD SACHS, M.D.
J. BENTLEY SQUIER, M.D.
GEORGE D. STEWART, M.D.
WILLIAM G. THOMPSON, M.D.
LINSLEY R. WILLIAMS, M.D.
WALTER B. JAMES, M.D.

DIAGNOSTIC SERVICE OF THE HARVARD MEDICAL SCHOOL FOR TROPICAL AND EXOTIC DISEASES

IN 1922 a notice was published about a new diagnostic service offered to physicians by the Department of Tropical Medicine of the Harvard Medical School. The purpose was to obtain material for teaching and to render service to the community through the physician. This work has been continued and the following statement is quoted from the original notice: "So far as the nature of the particular problem allows, final reports will be rendered on material sent to the Department of Tropical Medicine. When it is not practicable to make the diagnosis from material that can be sent, and the presence of the patient is necessary, unless the Health Department should deem it advisable to place the case elsewhere, the patient can be referred to the Service for Tropical Diseases at the Boston City Hospital where the necessary examination will be made either in the Out-Patient Department Tuesday mornings or after admission to the ward-beds of the Service for Tropical Diseases. The necessary diagnostic procedures will then be carried on either at the Boston City Hospital or at the Harvard Medical School through the agency of the Department of Tropical Medicine.

A list of diseases in regard to which the De-

partment of Tropical Medicine is prepared to advise as to prevention or diagnosis is appended.

In a parallel column the appropriate laboratory methods of diagnosis are indicated.

Physicians are invited to write or to telephone to the Department of Tropical Medicine for information about its diagnostic service or about

the best methods of obtaining material for examination."

During the interval since 1922 the Department of Tropical Medicine has added to its staff, Drs. Joseph Bequaert, entomologist; J. H. Sandground, helminthologist, and very recently, L. R. Cleveland, protozoölogist.

TROPICAL AND EXOTIC DISEASES

(Italicized diseases have been found in Massachusetts)

SECTION I. PROTOZOAN DISEASES

1. Malaria:
Tertian.
Subtertian.
Quartian.
2. Trypanosomiasis:
African sleeping sickness.
American trypanosomiasis.
3. Leishmaniasis:
Kala-azar.
Oriental sore.
American leishmaniasis.
4. Amoebiasis.
5. Infection with:
 - a. *Balantidium coli.*
 - b. *Giardia intestinalis* (lamblia).
 - c. *Trichomonas intestinalis* (cercomonas).
 - d. *Chilomastix mesnili.*
 - e. *Other flagellates.*

DIAGNOSTIC METHODS

- Examination of blood smears or fresh blood preparations.
- Animal inoculations.
Examination of blood smears or fresh blood preparations.
Spinal fluid.
- Animal inoculations.
Examination of scrapings from lesions.
Examination of sections of tissue.
- Examination of fresh faeces for amoebae.
Examination for cysts.
- Examination of fresh faeces.
Examination of fresh faeces and cultures.
Examination of fresh faeces and cultures.
Examination of fresh faeces and cultures.
Examination of fresh faeces and cultures.

SECTION II. SPIROCHAETAL DISEASES

1. *Yaws.*
Examination with dark field of serum from lesions and of stained preparations.
2. *Relapsing fever.*
Examination of fresh blood preparations and stained smears.
Animal inoculations.
3. *Rat-bite fever.*
Dark field examination of fresh blood and of stained specimens.
Blood cultures taken.
4. *Infectious jaundice.*
Animal inoculations.
Agglutination test with patient's blood.
Urine examination for spirochaetes.
5. *Yellow fever.*
Animal inoculations.
Serum reactions.
Examination of fresh blood and stained preparations.

SECTION III. BACTERIAL INFECTIONS

1. *Plague.*
Examination of blood cultures and cultures from material from gland puncture.
Animal inoculations.
2. *Tularensen infection (deer fly fever).*
Examination of cultures of blood and material from glands.
Animal inoculations.
3. *Undulant fever (Malta fever).*
Examination of blood cultures.
Agglutination test.
4. *Bacterial dysentery.*
Examination of cultures from faeces.
Agglutination test.
5. *Cholera.*
Examination of cultures from faeces.
Agglutination test.
Pfeiffer's reaction.
6. *Leprosy.*
Microscopical examination of nasal secretion and scrapings from lesions.

SECTION IV. INFECTIONS OF UNKNOWN ETIOLOGY

1. *Typhus fever.*
Agglutination reaction of Weil-Felix.
Pathological examination of skin—biopsy.

2. Rocky Mountain spotted fever.
3. *Inguinal granuloma*.
4. *Tropical phagedena*.
5. Veldt sore.

Animal inoculations with blood.

{ Examination of smears from lesions.
{ Examination of sections of tissues.

SECTION V. MYCETOMA

1. *Madura Foot*.
2. *Blastomycosis*.
3. *Sporotrichosis*.

{ Microscopical examination of fresh and stained
preparations from lesions.
{ Cultures from lesions.

SECTION VI. PARASITIC INFECTIONS

1. *Filariasis*.
 - a. *Filaria bancrofti* (endemic elephantiasis).
 - b. *Filaria loa* (diurna).
 - c. *Onchocerca volvulus* (*filaria volvulus*).
2. *Distomiasis* (Flukes).
 - a. *Paragonimiasis* (endemic hemoptysis).
 - b. *Schistosomiasis*.
 1. *Schistosomum hematobium* (vesical bilharziasis).
 2. *Schistosomum mansoni* (rectal bilharziasis).
 3. *Schistosomum japonicum*.
 - c. *Clonorchiasis*.
 - d. Other liver flukes.
 1. *Fasciolopsis buski*.
 2. *Fasciola hepatica*.
3. *Uncinariasis* (hookworm).
4. *Taenia infections*.
 - T. *Echinococcus*.
 - Diphyllobothrium latum* (fish tapeworm).
 - T. *Nana* (dwarf tapeworm).
5. *Strongyloides*.

Examination of fresh and stained blood preparations.

Examination of fresh and stained blood preparations.
Examination of fresh and stained blood preparations
and of sections of lesions.

Examination of sputum for ova.

Examination of urine or faeces for ova.

Examination of faeces for ova.

Examination of faeces for ova.

Examination of faeces for ova.

Examination of faeces for ova.

Examination of faeces for ova.

Examination of faeces for ova or parasites.

Examination of pathological material.

Agglutination test.

{ Examination of faeces for ova.

{ Identification of parasites.

Examination of faeces.

Examination of discharges and identification of
larvae.

Of nose.

Of ear.

Of gastro-intestinal tract.

SECTION VII. OTHER DISEASES OF INTEREST TO THE DEPARTMENT

1. *Sporadic elephantiasis*.
2. *Heat-stroke*.
Heat exhaustion.
Siriasis.
3. *Beriberi*.
4. *Scurvy*.
5. *Pellagra*.
6. *Sprue*.
7. *Smallpox*.
8. *Dengue*.

9. Chigger disease.

10. *Acarine dermatomycosis* { Red bug.
Copra itch.

11. Oroya fever.

12. *Verruga peruviana*.

13. Japanese river fever (*Tsutsugamushi* fever).

14. Pappataci or *Phlebotomus* fever.

15. Black water fever.

16. *Drachontiasis* (Guinea-worm disease).

CORRESPONDENCE

CITY OF BOSTON—HEALTH DEPARTMENT

December 11, 1925.

Editor, *Boston Medical and Surgical Journal*:

In the issue of the JOURNAL for December 10 you call attention to the death rate in the cities of the world having a population of a million or over, mentioning the fact that Boston's rate of 14.07, which is higher than the cities mentioned, leaves much to be discussed.

I thank you for the opportunity of allowing me to make some explanation for this rate in Boston, and for comparative purposes I am enclosing herewith a table of statistics of American cities, where methods and standards of statistical computation and analysis can be regarded as more nearly comparable. These figures have been received from the health

departments of the cities mentioned, and I have omitted Chicago because we have been unable to secure their statistics after several written requests.

If you will observe the table you will note two columns marked "No. of non-resident deaths" and "No. of deaths of non-residents under one year of age," and this will serve in some measure to explain Boston's rate. In 1924, the deaths of non-residents in this city amounted to 17 per cent. of the total number of deaths from all causes, which if deducted from the rate of 14.07 would present a death rate of 11.68—not bad at all when compared to the other cities where the deaths of non-residents are almost negligible. If we look also at the total number of deaths of infants under one year of age we find a similar situation in that 19 per cent. of these infant deaths are of non-residents, a proportion of non-residents exceeding any other city; and if we again subtract this number from our total, we have an

COMPARISON OF SOME MORTALITY STATISTICS OF AMERICAN CITIES, 1924*

City	Population	Total No. of deaths	No. of non- resident deaths	Percent- age to total deaths	Deaths of infants under 1 year of age	Non- residents under 1 year of age	Percent- age to total under 1 year of age	General death rate
Boston	776,783	10,933	1,859	17.0	1,472	285	19.4	14.07
New York	6,139,520	71,252	1,735	2.4	8,820	145	1.6	11.64
Philadelphia	1,951,076	25,280	—	—	3,100	—	—	12.96
Detroit	1,150,000	12,838	1,007	7.8	2,390	116	4.8	11.16
Los Angeles	1,000,000	11,324	—	—	1,241	—	—	11.32
Cleveland	912,052	9,287	673	7.2	1,390	66	4.7	10.18
St. Louis	812,698	10,998	—	—	1,054	—	—	13.15
Baltimore	784,938	11,310	996	8.8	1,477	67	4.5	14.4
Montreal	654,650	9,752	503	5.1	3,151	—	—	13.3
Pittsburg	626,015	9,627	1,306	13.6	1,401	127	9.0	15.3
San Francisco	600,000	7,493	894	11.9	496	—	—	12.4

*Chicago figures not available.

—Boston Health Department.

infant mortality rate of 60.18 per 1,000 births. Our present infant mortality rate with non-residents included is 74.62 per 1,000 births, figured on 1472 deaths.

I do not desire to enter into any lengthy discussion of this matter except that I feel that when Boston's rates are compared with other cities they should be qualified, and for the reasons mentioned. Of course, we might go further into the subject and compare age groups, etc., but the principal reason for our large number of deaths of non-residents here in this city is due to our wonderful diagnostic and hospital facilities that serve as a Mecca for patients not only from the adjacent cities and towns in Massachusetts but from the whole of Maine, New Hampshire, Vermont, parts of Canada, and the Provinces.

It might be well to mention, also, that of the number of infants born annually in this city—almost 20,000—49 per cent. are born in hospitals.

An analysis of this sort helps, too, in arguing for a metropolitan city. A city like Boston suffers comparatively in morbidity and mortality statistics, not to mention other ways, and the other cities and towns from which these patients come are consequently lower in their statistical rates because of these circumstances that I have mentioned.

I am grateful to you for calling this matter to my attention, and I hope my explanation will serve to some extent to discount what appears to be an unfavorable situation in Boston as compared to other cities, and I join with you in hoping that with plans now under way Boston will in 1926 be blessed with still lower rates.

Yours very truly,

F. X. MAHONEY,
Health Commissioner.

SCIENCE IN PRACTICE

Editor, Boston Medical and Surgical Journal:

The following is a copy (including stenographer's mistakes) of the directions given a few days ago by a Boston dermatologist for the diet and treatment of a baby, aged nineteen and one-half months, who had a very mild type of eczema:

"DO NOT EAT

Wheat	Milk	Peppers
Buckwheat	Sword Fish	Tomato
Barley	Molasses	Summer Squash
Bacon	Carrot	Chocolate
Squab	Cucumber	Grape
Haddock	Parsnip	Oatmeal
White Fish	Cauliflower	Corn Flakes
Celery	Cocoa	Ham

Beet Greens	Casaba Melon	Tapioca
Endive	Goat Milk	Cod Fish
Dandelion Greens	Macaroni	Fillet of Sole
Lemon	Cornmeal	String Beans
Apple	Pork	Spinach
Fig	Turkey	Lettuce
Bran	Buttermilk	Mushroom
Corn	Flounder	Cranberry
Irish Moss	Lima Beans	Strawberry
Lamb	Beet	Raisin

"CAN EAT

Rice	Squash	Banana
Sweet Breads	Radish	Plum
Eggs	Jerusalem Arti-	Apricot
Salmon	choke	Veal
Asparagus	Orange	Beef
Turnip	Pear	Halibut
Brussel Sprouts	Grape Fruit	Peas
Blueberry	Rye	Onion
Cantaloupe	Chicken	Swiss Chard
Pineapple	Butter	Raspberry
Puffed Rice	Potato	Peach
Calves Liver	Sweet Potato	Prunes
Cream	Cabbage	
Mackerel	Blackberry	

"Avoid Goldenrod, Rag Weed, Lillac, Corn, Rose, Red-top Grass, and Orchard Grass Pollen.

"Avoid Chick Feathers, feather pillows, Dogs, and Cats. Avoid Goose Feathers.

"Avoid anything containing Cascara."

Comment seems hardly necessary!

I am informed that the charge for this advice was fifty dollars!

Yours sincerely,
JOHN LOVETT MORSE.
Per D.

THE ACTION AND USES OF CAMOMILE TEA

A magnate has furnished a laboratory
With beakers and test tubes and scientists three,
To give to the world and to Science the glory
Of knowing the action of camomile tea.

There are X-rays and stomach tubes, spectrosopes
shining,

And shelves upon shelves of reagents to see,
For to learn beyond question the donor is pining.
The action and uses of camomile tea.

Throw open the doors! Let the learned ones wonder
And jealously gaze (for admission is free).
No longer we'll need to reflect why in thunder
Our grandmothers dosed us with camomile tea.

For soon the keen ray of the cold light of Science
Will clear the enigma that's bothered us so—
In this workshop of knowledge is every appliance
That ever could possibly help us to know.

Here beakers and test tubes are ready and waiting;
Here microscopes stand (here are scientists three,
Already, I haven't a doubt, contemplating
The action and uses of camomile tea).

Oh, why did our grandmothers start such a shindy?
Their reason I never was able to see,
And yet they persisted, when babies were windy,
In filling their stomachs with camomile tea.

Of course they were ignorant, stupid, malicious,
To meddle with drugs such as camomile tea,
But this sticks in my crop as peculiarly vicious—
It was *unscientific* to such a degree.

But all will be well, for a patron of learning
Has furnished the setting for scientists three
To settle that question vexatiously burning—
The action and uses of camomile tea.

Jog.

NEWS ITEM

RESIGNATION OF MISS RIDDLE—Miss Mary M. Riddle, for many years chairman of the Massachusetts Board of Registration of Nurses, has tendered her resignation to Governor Fuller.

Miss Riddle has been prominent in State and national nursing organizations and for many years was superintendent of the Newton Hospital.

NOTICES

UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces the following open competitive examination:

Social Worker (Psychiatric)

Receipt of applications for social worker (psychiatric) will close December 29. The examination is to fill vacancies in the United States Veterans' Bureau and in positions requiring similar qualifications throughout the United States.

The entrance salary is \$1860 a year. After the probational period of six months required by the civil service act and rules, advancement in pay may be made without change in assignment up to \$2400 a year. Promotion to higher grades may be made in accordance with the civil service rules.

The duties are to investigate history and environmental conditions of patients; to analyze and submit data to the physician to aid him in arriving at a definite diagnosis and in outlining a course of treatment; to consider, report upon, and treat the social environment to which a convalescent patient may go or be expected to go.

Competitors will be rated on their education, training and experience; and a thesis or publications to be submitted with the application.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the Board of United States Civil Service Examiners at the postoffice or custom house in any city.

NOTICE OF EXAMINATION FOR ENTRANCE INTO THE REGULAR CORPS OF THE UNITED STATES PUBLIC HEALTH SERVICE

Examinations of candidates for entrance into the Regular Corps of the United States Public Health Service will be held at the following-named places on the dates specified:

At Washington, D. C.	February 8, 1926
At Chicago, Ill.	February 8, 1926
At New Orleans, La.	February 8, 1926
At San Francisco, Cal.	February 8, 1926

Candidates must be not less than 23 nor more than 32 years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two years' professional practice. They must pass satisfactorily oral, written and clinical tests before a board of medical officers and undergo a physical examination. Successful candidates will be recommended for appointment by the President with the advice and consent of the Senate.

Requests for information or permission to take this examination should be addressed to the Surgeon-General, United States Public Health Service, Washington, D. C.

H. S. CUMMING, *Surgeon-General*.

THE Massachusetts General Hospital and The Boston City Hospital will notify the BOSTON MEDICAL AND SURGICAL JOURNAL of surgical operations listed each day.

This information will be transmitted to all who may apply by telephone at 9.05 a. m. or later.

REPORTS AND NOTICES OF MEETINGS

BOSTON MEDICAL LIBRARY

THE Annual Meeting for the transaction of business will be held at 8 o'clock promptly on Tuesday evening, January 19, in Sprague Hall.

Immediately following the annual meeting, at 8.30 p. m. exercises in celebration of the 50th Anniversary of the founding of the Library will be held in John Ware Hall at which Dr. George E. Vincent, President of the Rockefeller Foundation, will deliver an address.

ESSEX NORTH DISTRICT MEDICAL SOCIETY

THE 84th semi-annual meeting of this society will be held in Centre Church vestries, Main Street, corner of Vestry Street, opposite City Hall, Haverhill, Mass. (Tel. 548), Wednesday, January 6, 1926.

Dinner will be served at 12:30 sharp.

Following the dinner the business meeting will occur, after which these papers will be presented.

1. James S. Stone, M.D., of Boston, President of the Massachusetts Medical Society.

Edwin H. Place, M.D., of Boston, Clinical Professor of Pediatrics at Harvard University Medical School, upon "Modern Treatment of Scarlet Fever" (40 minutes).

3. Robert L. De Normandie of Boston, Instructor in Obstetrics at Harvard University Medical School, upon "The Three Common

Causes of Maternal Mortality" (40 minutes).

Discussions are invited upon the above matters (three minutes to a discussant).

The annual assessment (\$8.00) may be paid at this meeting.

RANDOLPH C. HURD, M.D., *President*.

J. FORREST BURNHAM, M.D., *Secretary*,
567 Haverhill Street, Lawrence, Mass.

December 29, 1925.

NEW ENGLAND PEDIATRIC SOCIETY

THE ninety-fourth meeting of the New England Pediatric Society will be held at the Boston Medical Library on Friday, January 8, 1926, at 8.15 P. M.

The following papers will be read:

1. President's Address, John Lovett Morse, M. D., Boston.
2. A Physiologic Study of Chronic Fatigue in School Children, with Special Reference to the Recognition and Management, Max Seham, M.D., Minneapolis, Minn.

Light refreshments will be served after the meeting.

JOHN LOVETT MORSE, M.D., *President*.

JOSEPH GARLAND, M.D., *Secretary*.

ANNUAL MEETING OF THE NATIONAL COMMITTEE FOR MENTAL HYGIENE

ABOUT two hundred persons attended the sixteenth annual meeting of the National Committee for Mental Hygiene, which was held at the Pennsylvania Hotel, New York City, on November 12. It was a luncheon meeting followed by addresses by Dr. Charles P. Emerson, President, and Dr. Frankwood E. Williams, Medical Director, of the National Committee for Mental Hygiene; Mr. Barry C. Smith, General Director of the Commonwealth Fund, New York City; and Dr. Bedford Pierce, formerly Superintendent of the Retreat, York, England. Brief talks were also given by Dr. Karl Reiland, Rector of St. George's Church, New York City; Dr. William A. White, Superintendent, St. Elizabeth's Hospital, Washington, D. C.; and Mr. Clifford W. Beers, Secretary of the National Committee.

MEETING OF THE NEW ENGLAND HEART ASSOCIATION

THE New England Heart Association met at the Peter Bent Brigham Hospital on Thursday evening, December 17th. Dr. Louis Gross of Mount Sinai Hospital, New York, addressed the meeting on "The Blood Supply of The Heart." His remarks were based on observations he had made on a series of one hundred human hearts. The hearts were obtained at autopsy and all treated in exactly the same manner and under the same conditions as nearly as possible. With

a suspension of Barium sulphate in gelatin, he was able to obtain 100 per cent. uniform injections. The viscosity of this suspension was such that the injections were carried up to the capillaries, but no farther, so that no confusion could arise in distinguishing the arterial from the venous system. Stereoscopic X-rays were taken of these hearts, then the heart tissue was rendered transparent so that the ramifications and distributions of the vessels could be studied more readily. Some were studied in serial section. Dr. Gross showed lantern slides taken from the stereoscopic X-rays to illustrate the more typical specimens.

Dr. Gross first pointed out some of the characteristics of the coronary artery distribution. This really varies considerably in different specimens and different age periods. The right coronary artery is long and circumflex, whereas the left is short and straight. In a small percentage of cases this arrangement is reversed. The right coronary distribution is shown to encroach on the territory of the left posteriorly, while the left sends branches to the right side anteriorly. There are therefore, these two areas of double blood supply. A branch from the right coronary supplies the sino-aortic node in 60 per cent. of cases. In 40 per cent. this supply arises from the left coronary. The interventricular septum, including the auriculo-ventricular node and the neuro-muscular bundle of His, also receives a blood supply from both coronary arteries. In some hearts the arrangement of the vessels is reversed. In such cases it is found that the ramus septi fibrosi which supplies the A. V. node arises from the left coronary artery instead of the right and the left limb of the neuro-muscular apparatus receives all its supply from the right coronary artery. In this type of heart, obliteration of a main branch of the right coronary is sufficient to give necrosis of a comparatively large area and heart block, as there is no double blood supply to the bundle of His in these cases. This difference in type of blood-vessel arrangement explains the variations in the extent of infarctions occurring at the same location. Because of its double blood supply in the larger number of cases, the A. V. node is sometimes found uninjured, although the muscle around it has become necrotic.

The existence or non-existence of blood vessels in valves has been a much disputed question for generations. Dr. Gross found that the great majority of adult valves do not contain blood-vessels. In some he found persistent foetal vessels. These cases were particularly predisposed to embolic endocarditis. In fact, where the persistence of the foetal vessels was complete, endocarditis was almost constantly associated. Where the foetal vessels persist only incompletely, endocarditis is not common.

There is abundant evidence that these ves-

sels are foetal remains and not inflammatory in origin as some have argued in the past. They always appear in a more or less uniform pattern, and they show the characteristic histological structure of arteries. The fact that they occur on the mitral valve at the favorite seat of endocarditis lends weight to the supposition that they are associated etiologically with the development of valve lesions.

Dr. Gross' specimens showed beautifully rich interlacing anastomoses in every part of the heart muscle. For this reason an enarcted area is always smaller than the area of distribution of the vessel that has been blocked. The anastomoses do compensate to a certain extent but in many cases cannot do so completely.

There are definite age-period changes in the coronary artery supply. At birth, the same amount of blood is distributed to both ventricles. In the foetus there is even a greater supply to the right side than to the left side. In the infant there are no microscopically visible anastomoses in the interventricular septum. Neither is there any delicate maze of vessels extending unto the bases of the aorta and pulmonary artery.

In the first decade of life no anastomoses are visible, and no macroscopic "fat vessels" can be seen.

In the second decade there is a suggestion of visible beginning anastomoses.

Third decade—The anastomoses are more visible and there is a suggestion of beginning tortuosity. The left heart supply is noticeably richer than the right.

Fourth decade—The anastomoses are quite plain in the septum and the tortuosity is increasing. The volume to the left side seems to be distinctly greater. The root of the pulmonary artery has a net work of small fat vessels and there is a haze about the coronary vessels, made up of these delicate fat vessels. The auriculo-ventricular furrow has also developed a net work of these "rami telae adiposae."

In the fifth decade there is an exaggeration of the same processes. In addition the vessels have lost some of their elasticity.

In the sixth decade the anastomoses are very rich and the tortuosity is more marked. The left side shows a very much richer blood supply.

In the seventh decade the anastomoses, tortuosity and supply to left heart all become accentuated.

The eighth decade shows quite marked arteriosclerotic changes and extraordinarily rich anastomoses. A case of an old lady in the eighth decade was cited. She had an obliteration of the right coronary with no muscle damage and no history of heart trouble. This result would have been impossible without the exceedingly rich anastomoses that are found in later life. The remarkable network of fat vessels give off capillaries to the musculature. Old hearts are

excessively rich in these fat vessels. Almost from birth we begin to develop two compensating mechanisms, viz: Anastomoses and fat vessels. In only too many cases is this compensation inadequate.

In opening the discussion on Dr. Gross' discourse, Dr. J. L. Wearn said he (Dr. Gross) had accomplished something which had been attempted for centuries, that is the demonstration of anastomoses in the coronary circulation. Dr. Wearn suggested other problems such as dyspnoea and oedema that might some day find their solution in new observations on the circulation of the heart.

DRS. SOPER AND WOGLUM DISCUSS CANCER

GEORGE A. SOPER, Ph. D., managing director of the American Society for the Control of Cancer, and Dr. William A. Woglum, assistant to Dr. Frank C. Wood of the Crocker Institute for Cancer Research at Columbia University, were the two speakers of the evening at a joint meeting of the Baltimore City Medical Society and the Maryland Cancer Committee, arranged by Dr. Joseph Colt Bloodgood for the purpose of "giving active workers in the field of cancer an opportunity to hear what is being done on the research side of the problem."

Dr. Soper spoke of the work in European research centres, particularly stressing the work of Gye and Barnard in London.

HARVARD MEDICAL SCHOOL

A MEETING of the local members of the Class of 1901 was held at the Boston Medical Library Wednesday, December 16, at 4.30 p. m., to present and discuss plans for a reunion on the 25th Anniversary of Graduation next June. It was voted that such a reunion be held and provision for proper committees was made.

MEETING OF THE HARVARD MEDICAL SOCIETY

THE Harvard Medical Society met at the Peter Bent Brigham Hospital on Tuesday evening, Dec. 16, with Dr. Cushing in the chair.

Two cases were demonstrated. The first was a man of sixty-six years of age. Four days before admission his legs suddenly gave way without warning, when he was trying to get into a carriage. The X-ray showed a fracture of the leg. The history was negative except for a fracture of the other leg when seventeen, with a refracture because of early use. Any causal connection with the present fracture seemed doubtful. In pathological fractures at this age we first think of carcinoma metastasizing. There was no evidence of this. The process was somewhat proliferative. Other considerations in the differential diagnosis were syphilis, tuberculosis, sarcoma, osteitis deformans. The patient also had

fractures of two ribs, but the process seemed different from that in the leg. In Paget's disease there is usually thickening of the cranial vault, but this man's vault showed no thickening, but rather a rarefaction in one spot. It certainly was not typical of Paget's disease, yet there seemed no other diagnosis as reasonable.

The second case presented was a man of seventy-two complaining of shortness of breath. He was well and in excellent health until 1916. Then he lost forty-five pounds in weight in six weeks. He stayed in a hospital for one month losing twenty-five pounds more. The diagnosis at that time was cirrhosis of the liver. He had a palpable liver, shortness of breath and epigastric distress with flatulence. On discharge he was still losing weight and still short of breath, but in a few months he regained sixty pounds and continued well until the fall of 1918, when a similar attack came on with loss of weight, which was regained as before. Since a third attack in 1920 he has not regained strength nor been free of symptoms. The present examination showed a failing myocardium with dyspnoea, orthopnoea, oedema of legs and some general anasarca with small amount of fluid in the chest. The heart was enlarged and the rate irregular. The edge of the liver was felt at the level of the umbilicus. Both the doctor and patient were of the opinion that the former attacks were different from the present trouble. The former picture did not seem to fit a decompensation, but the nature of these previous illnesses was unexplained.

Dr. Cheever addressed the meeting on his "Visit to European Clinics" last summer. His party first landed in Naples and visited the Museum. They saw there 125 different types of surgical instruments found in the ruins of Pompeii. The first clinic they visited was at Rome. There they witnessed five operations, all done under spinal anaesthesia. There was very little bleeding probably due to the low blood pressure produced by this type of anaesthesia. Often it was not possible to get the systolic pressure at all. The patients sometimes appeared to be in a dangerous condition, but did not alarm the operator. One of the cases was a hydatid cyst of the liver, which is fairly common there.

One of the surgeon's assistants at this clinic showed a carcinoma of the stomach with true metastases to the lungs, produced in rats by feeding coal-tar for three to fifteen months.

At another clinic visited in Rome, general anaesthesia plus morphine narcosis was used for operation. They visited Florence but had no clinic there. At Bologna they inspected Professor Putty's orthopedic clinic at the Institute Rizzoli. This is a large institute for orthopedic cases. The aseptic technique at this hospital is faultless in Dr. Cheever's opin-

ion. Also at Bologna they visited the old University that was founded in the 11th century.

At Venice they visited a large hospital that was formerly a monastery. In this clinic the staff wore rubber shoes and sprinkled disinfectant on the floor at regular intervals so that the floor was always wet. The surgeon performed five operations in one hour and thirty-five minutes. Following the removal of the spleen in one case, a great mass of iodoform gauze was packed into the incision against the diaphragm. Another case was a trophic ulcer of the leg in which the sciatic nerve was stretched manually.

In Venice also, they visited a hospital for surgical cases of tuberculosis.

At Strausburg they witnessed a cervical sympathectomy for angina pectoris. The surgeon had operated on eighty-two of these cases, forty of whom were symptomatically cured. He uses this operation also on gangrene of the lower extremity on the basis that it hastens the formation of the line of demarcation.

In Paris the party saw six surgeons operate at different clinics. At one clinic, an abdominal tumor diagnosed as a huge calculus, proved on operation to be a case of spasmodic retention.

From Paris they visited Brussels and The Hague. At The Hague they saw three operations for ulcer of the stomach. The popular operation there is resection with direct anastomosis of the stomach and duodenum. The radical treatment of ulcer is quite general in Europe.

Dr. Cheever illustrated his visits with lantern slides.

SOCIETY MEETINGS

DISTRICT MEDICAL SOCIETIES

Essex North District Medical Society

January 6, 1926—The semi-annual meeting at Haverhill.
May 5, 1926—The annual meeting at Lawrence.

Essex South District Medical Society

Wednesday, January 6—Beverly Hospital, Clinic, 5 P. M. Dinner, 7 P. M. Speaker, Dr. Paul D. White, Boston, "Recent Progress in the Study and Treatment of Heart Disease."

Wednesday, February 3—At 7 P. M. Hawthorne Hotel, Salem. Dr. Walter Timme, New York. Subject to be announced.

Wednesday, March 2—Lynn Hospital, Clinic, 5 P. M. Dinner, 7 P. M. Dr. Charles E. Mongan, Somerville, "Some Problems of Present-Day Practice."

Thursday, May 6—Censors meet at Salem Hospital, 3:30 P. M. Tuesday, May 11—The Tavern, Gloucester. Annual meeting. Speaker to be announced.

Middlesex East District Society

January 13—At the Harvard Club at 6:30 P. M. Address by Dr. Richard Ohler, "Metabolism."

February 10—At the Harvard Club. Address by Dr. William F. Boos, subject, "Industrial Poisoning."

April 14—At the Harvard Club at 6:30 P. M. Address by Dr. William E. Ladd, subject to be announced later.

May—Annual meeting, Colonial Inn, North Reading. Subject and speaker to be announced.

Suffolk District Medical Society

January 6—At 8:15 P. M. Medical Section (meeting postponed from December). Dr. W. J. MacDonald will speak on "Experimental Work in High Blood Pressure."

January 27—At 8:15 P. M. Combined meeting with Boston Medical Library. "Medical Experience of an Explorer," Dr. J. Hamilton Rice.

February 24—At 8:15 P. M. Surgical Section. "Post-operative Care of Surgical Cases," Dr. Dean Lewis, Chicago. "Surgical Convalescence," by Dr. John Bryant.

March 31—At 8:15 P. M. Medical Section. "Some Experiments in Group Physical Examination," Dr. Roger I. Lee.
April 28—At 8:15 P. M. Annual meeting. Election of officers. "Some Diagnostic, Prognostic and Therapeutic Aspects of Disorders of the Blood," Drs. George R. Minot, Cyrus C. Sturgis and Raphael Isaacs.

Notices of meetings must reach the JOURNAL office on the Friday preceding the date of issue in which they are to appear.

BOOK REVIEWS

Physiotherapy: Theory and Clinical Application. By HARRY EATON STEWART, M.D., President-Elect, American Academy of Physiotherapy; Formerly Assistant Director, Section of Physiotherapy, Office of the Surgeon-General, U. S. Army; Supervisor of Physiotherapy, Bureau of U. S. Public Health Service, Washington, etc. Cloth. \$7.50. New York, Paul B. Hoeber, Inc. 1925.

"Physiotherapy may be defined as the employment of physical forces of nature in the treatment of injury and disease. In view of the advances made within recent years it may reasonably be considered one of the most direct, potent and valuable adjuncts in the entire field of therapeutics.

"The difficulty encountered, as in every development in the history of medicine, has been, ad perhaps still is, the incursion of quackery and the unscientific methods of natural healing. *With these physiotherapy is in no way to be confounded or confused.* Largely empiric in the past, with the development of modern mathematically and scientifically accurate instruments for measurement, it is now beginning to be possible to prescribe dosage of physiotherapy with the exactness of drug therapy.

"The growth of physiotherapy in America during the past fifteen years has exceeded the most sanguine expectations. Credit for this should be given to a relatively small group of workers who laid the foundation for its rapid development. No small meed of praise is due to the physiotherapy department of the Surgeon General's Office, which during the war organized a department for which no groundwork had previously been laid.

"The United States Public Health Service and the Veterans' Bureau have made very large use of physiotherapy during the post-war period. By no means has all of the recent growth of physiotherapy been confined to government agencies. It is now being introduced in general practice, the specialties, clinics, and hospitals.

"A leading Boston surgeon recently said, 'No hospital can call itself modern in these days unless it has a well-equipped physiotherapy department.' The general hospital can greatly improve the quality of work done and shorten the average time of hospitalization by its use.

"The government hospital clinics of phys-

iotherapy have served as models for a number of such departments recently established in civilian general hospitals.

"A great deal of work can be done in a relatively small space if it is properly arranged. If the tables or cubicles are arranged parallel and at a right angle to the walls, with 4 ft. between them and the side wall, much of the apparatus may be readily moved to the required place.

"A small department for a one hundred bed hospital would require at least the following apparatus: one set of pulley weights; one galvanic control; one faradic coil; one sinusoidal or wave galvanic machine; one air-cooled ultraviolet lamp with a few quartz applicators for local work; four small portable or two 1500-candle power radiant lights; two portable and two stationary high-frequency machines.

"The problem of how to train physicians and technicians properly trained in physical therapeutics will not be solved in a satisfactory manner until the medical schools and hospitals adequately teach these important branches.

"Only Harvard, Leland Stanford, Jefferson, Indiana, Rush and a few other schools have as yet offered courses in physiotherapy. The eagerness with which the profession is crowding into the short lecture courses in physiotherapy, unsatisfactory as they must of necessity be as a preparation for new and highly specialized work, should be an object lesson to the medical schools of the need for such knowledge which modern practice requires.

"A reviewer of the *Journal of the American Medical Association* in a recent comment on a new text on this subject stated: 'The subjects are generally studied inadequately or not at all in medical schools. One of the excuses given for the neglect of these important topics in the medical school has been the lack of a suitable textbook. Unfortunately the real cause for the neglect of physiotherapy is the ignorance of the framers of medical school curriculums regarding it. As the students of the present become the curriculum makers of the future we have here a vicious circle.'

"At present it is extremely difficult for the physician to obtain a good working knowledge of physiotherapy by means of a few books. There seems to be a need for a text covering the whole subject in as condensed and simple a form as possible. Such is the aim of this book.

"The greatest need at present seems to be for a text which will indicate how properly to choose and blend the indicated types of physiotherapy into a complete and thorough physical treatment, for those conditions in which they have proved of value. Nowhere at present is there given the proper blending, alternatives and sequences of all the physiotherapeutic measures applicable to many pathological conditions. This is the aim of the second part of the volume.

"The time when the term physiotherapy meant 'baking and massage' is over, as is the real usefulness of an assistant whose methods are limited to these two means."

Occasionally, a new text book of reasonable size illuminates a new or neglected subject, with resultant mutual advantage to patients, medical students and practicing physicians.

To this group of desirable texts, belongs this authoritative presentation by Stewart, of the subject of Physiotherapy.

Diseases of the Rectum. By MARTIN L. BODKIN, M.D., F.A.C.S. Published by E. B. Treat & Co., New York. 487 pages. Price \$6.00.

This volume on rectal diseases by Doctor Bodkin is a very useful book for the general practitioner, the general surgeon, and the specialist in that branch of medicine. He goes into a good deal of detail regarding local examination, symptoms, and particularly office arrangement and equipment. His chapter on general diagnosis gives an excellent differential guide as to malignant and non-malignant growths, and a rather clear picture of rectal polypi, fistulae, rectal prolapse, abscess formation in the rectum, etc. The relation of intestinal flora to the mild catarrhal diseases of the colon is described in an interesting way, and he discusses at some length the question of food intolerance, proteolysis, fermentation, and the treatment of these catarrhal diseases. He endeavors to clear up the confusion that exists in the nomenclature used by pathologists and internists, and offers a diagrammatic scheme to facilitate the mental picture. He continues with a discussion of sigmoiditis and diverticulitis, and then has a chapter on colostomy, giving its classifications and the technique. Five pages are devoted to the question of irrigation of the colon, and entire chapters to such diseases as fistula, fissures, fecal impaction, and obstipation. The discussion of hemorrhoids, their classification, etiology, and treatment, is taken up at great length. This chapter, it seems to us, is the one that would probably be of most value both to the general practitioner and the surgeon. Although he describes the surgical treatment of malignant growth of the rectum rather graphically we think that he has given radium and X-ray very scant consideration. In fact, he does not discuss them at all save to mention that relief from pain and toxicity may be procured by these means. In his index, the word *radium* is not mentioned, and the word *X-ray* is only used in connection with the treatment of hemorrhoids. Our feeling is that radium and X-ray have a very distinct place in the treatment of malignant rectal growths; namely, in those cases in which operation is contra-indicated because of the patient's

age, general condition, immobility of the growth, evidence of metastases, etc. We have often observed that the growth was held in check for a considerable period by these means, and we even occasionally get a clinical cure.

Doctor Bodkin's volume is thoroughly interesting, and has distinct place among books treating of diseases of the rectum and pelvic colon.

Man: His Making and Unmaking. By E. BOYD BARRETT. 8°, p. 269. Seltzer, New York. 1925.

Dr. Barrett, a well-known writer on psychological topics, is professor of Psychology at Georgetown University. His book consists of a series of lectures, addressed to "the man in the street" and deals with such subjects as, Human Reactions, the Mind Out of Tune, the Art of Mental Healing, the Criminal, the Gambler, and Abnormal Impulses. The author believes in a practical psychology, comparatively easy of acquisition, which ought to be of interest to people of all classes. He states his case well, avoids extremes and lays emphasis on the principle that it is "only through self-knowledge that we become adjusted to life." The book is much superior to the average type of semi-popular literature on psychology.

Some Encouragements in Cancer Surgery. By G. GREY TURNER, F.R.C.S., Eng. Published by William Wood & Company, New York. 75 pages. Price \$3.50.

This little book of Turner's is based upon a lantern demonstration given by him before the Surgical Section of the Royal Society of Medicine on February 6, 1924. It consists largely of brief reports of cases of malignant disease upon which the author had operated with more or less successful results. Mingled with the case histories are observations based upon the author's experience and the whole is very well illustrated by drawings of the pathological specimens removed. It seems probable that the cases reported by Turner represent the cream, as it were, of a very large number of operations for malignant disease, for many of his results might be considered as unexpectedly good. For every good result reported there must have been many disappointments. This in no way destroys the value of the moral of Mr. Turner's monograph, which is that "every case which does not show unequivocal evidence of dissemination should have the chance which only an operation offers." It is indeed encouraging to see so many good results in the experience of one man.

Experimental Investigations Into the Emotional Life of The Child Compared with that of The Adult. Helga Eng, Oxford University Press, 1925.

This technical monograph is an attempt to investigate by laboratory methods the emotional life of the child between the ages of seven and fourteen. The apparatus selected for carrying out these experiments was the plethysmograph. Fully half of the volume consists of tables and reproductions of tracings.

The emotional stimuli were simple, the children were apparently interested and capable of simple feats of introspection. The data are made available for study and the volume has merit and a basis for further study. No suggestion of its use in the diagnosis or treatment of abnormal states is made.

Modern Methods in the Diagnosis and Treatment of Pulmonary Tuberculosis. By R. C. WINGFIELD, M.B., M. R. C. P. (Pub.—Paul B. Hoeber, Inc., New York. Price, \$3.00.)

Wingfield in this small book included among Modern Medical Monographs describes modern methods in the diagnosis and treatment of pulmonary tuberculosis. There is much to interest and recommend in it. There are some excellent photographs. The arrangement of the text makes it easy to read while there are numerous diagrams illustrating his points. There are many of us who would not agree with his opinion that adult tuberculosis is a reinfection and not a reactivity of a childhood infection. He emphasizes quite properly that infection by the tubercle bacilli does not mean clinical tuberculosis and that active tuberculosis of the lungs is compatible with a useful life of the ordinary length but in most cases this life must be lived under special conditions. He calls attention to what he considers over-appreciation of the importance of the stethoscope in diagnosis and believes that in many cases of early pulmonary tuberculosis the stethoscope may be perfectly useless. He likewise emphasizes the fact that once a diagnosis is made complete and adequate treatment must at once and definitely be put into force.

In regard to hemorrhage, it is refreshing to read a statement that cases of hemorrhage from varicose veins from the back of the tongue and in the larynx are reported but that in a long and varied experience he has never seen this. The reviewer would quite agree with this statement which doubtless will be denied by the majority of laryngologists. On page 15 there is a curious and disturbing error in that an entire paragraph is devoted to the subject, dyspnoea, which has already been considered on page 13 and which should read, anemia. Why this was not discovered in proof-reading is difficult to see. He doubts if it is worth while for the practitioner to stain and examine his own specimens

of sputum. With this the reviewer would disagree and it is his opinion that the psychological value alone of doing one's own sputum examinations or having them done under one's own supervision is very great.

In physical examination he recommends estimating the Kronig isthmus, speaks of paravertebral dullness and recommends estimating the diaphragmatic excursion of the lungs from the bases behind. This latter is best done by means of the fluoroscope, and the two former points in the reviewer's opinion are valueless.

He divides treatment under two heads, that of toxemia or general condition and of the lung condition. The patient is better off in a sanatorium because treatment properly carried out at home will completely upset and alter the usual routine of the home and causes a great deal of discomfort to other members of the family. There is much sound common sense in this.

His remarks on rest and exercise are sound although his opinion is some biased on the works of Marcus Paterson at the Brompton Sanatorium.

As far as drugs are concerned, he believes that iodine is of value. The reviewer knows of no one in this country who would support him in this opinion. His remarks on tuberculin are sound as likewise are those in regard to pneumothorax and the surgery of the lung. He recommends morphia in cases of hemorrhage, with which many of us would not be in accord but he supports his opinion with sound arguments. He likewise believes that amyl nitrate is of value.

In the diagnosis of bronchial glands in childhood one is glad to note his statement that d'Espine's sign as well as the Eustace-Smith sign are valueless.

On the whole the book may be safely recommended.

The Art of Medical Treatment. By FRANCIS W. PALFREY, M.D., Visiting Physician, Boston City Hospital; Instructor in Medicine, Harvard University. Octavo of 463 pages. Philadelphia and London: W. B. Saunders Company, 1925. Cloth \$4.50 net.

This little book should prove of value out of all proportion to its size because it is preëminent for concise, direct, and clear statement. The presentation of the material is, further, characterized by originality of method, by the discussion of certain aspects of therapeutics not found in other works, and by a fine sense of proportion in emphasis. Moreover, the views expressed demand respect because of the wide experience of the author, leavened, as it has been to an unusual degree, by close observation and rational thinking.

The appendices, and notably that on Stimulation, contain much that practitioners in general would do well to read and think about.

The importance of treating the patient as an individual human being, whose suffering it is

the physician's duty so far as possible to relieve, is emphasized throughout the book.

We are confident that Dr. Palfrey's book will be highly valued by student, teacher, and practitioner because it casts aside the mediaevalism with which the subject has so long been befogged.

G. C. S.

The Surgical Clinics of North America—Chicago Number. August, 1925, Vol. 5, No. 4. Philadelphia: W. B. Saunders Company.

This number, which conforms in arrangement and size of the volume, contains 246 pages with 54 illustrations, 28 different contributors and represents the work of 20 different Clinics. There are several very excellent illustrations. Most of the articles are based on short case reports but there are several which go into the subject dealt with in considerable detail: namely those on Surgery of the Spleen by Bevan, Tuberculosis of the Mouth by Moorehead and Dewey, and Urethral Stricture, by Eisendrath.

A very interesting case of Gas Bacillus infection arising in an operated case of gangrenous appendicitis with treatment and recovery is reported by Ochsner and Schmidt. Pennington treats interestingly of the excision method for anorectal fistulae, and gives very exact outline drawings of his procedure. Bernstein presents a valuable contribution to peripheral nerve injury literature and Gatewood presents an analysis of results obtained in gastric surgery.

There are numerous other articles of equal value, but the above mentioned ones stood out as of particular worth.

EDW. H. RISLEY.

A Textbook of Physiology. By WILLIAM D. ZOETHOUT, Ph.D., Professor of Physiology in the Chicago College of Dental Surgery (Loyola University) and in the Chicago Normal School of Physical Education. Second Edition, 1925. St. Louis, The C. V. Mosby Company, pp. 616. Price \$4.50.

The author of this book has designed to furnish a text of moderate size adapted to form the basis of the courses given in Dental and Normal schools and in colleges of Pharmacy. He shows a wide command of sources and has made a judicious choice of material. The simplicity and clarity of the diction are admirable; this is an eminently readable book. It is fair to say that students who use this text by itself can gain little appreciation of the difficult technique and the equally difficult concepts which are presented in the current literature of Physiology. All appears easy of visualization. The avoidance of what is hard in favor of what is picturesque and entertaining is possibly a

defect. But, on the whole, the capacity of the classes for which the book is intended seems to be fairly appraised and from a pedagogic point of view the work is of the highest order.

PERCY G. STILES.

Radium. Its Therapeutic Uses in General Practice. By G. H. VARLEY, M.D. Oxford University Press. 1924. 103 pages.

The first portion of this book is devoted to the physics of radium, a subject of great importance to men using radium. Methods of application, doses and reaction are discussed.

The second portion deals with the therapeutics of radium, as used in the author's private practice. His impressions, gained from treating 141 cases of malignant and benign tumors and other non-malignant conditions, are noted. Obviously, there is not a large number of any one type. Very little attention has been paid to end results.

The author gives abstracts of several cases of cancer of the cervix, treated by radium, but he does not give the final results. One case was seen at the end of a year and was free from disease except that there was fixation of the uterus. She was again given the same amount of radium as formerly, but there is no further note on the case. In other cases he judges the effect of the radium by the statement of the patient three months later. He advocates the use of small amounts of radium with heavy filtration, the treatment to be repeated as often as necessary. This type of treatment has been largely abandoned in the largest American clinics.

A patient with a cancer of the stomach, which at operation was shown to be too extensive for operation, was treated by radium swallowed on a string. No relief was obtained. Methods for treating cancer of the breast are given, but he does not state which cases are selected for radium.

Eight months is the longest period any of his rodent ulcer cases was followed, so that his results are valueless.

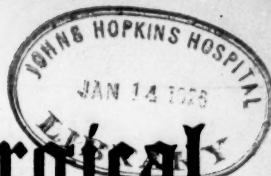
In summary, the book is interesting enough to read. The first portion has merit. The second does not give enough on technique to assist one in the treatment of cases with radium. Neither does he give proof enough that his methods are satisfactory. On the whole it is difficult to see that much has been accomplished by the book.

The Physician's Visiting List. 1926.

This publication by William Wood and Company contains space for recording visits to sixty patients a week. The dosage tables which have been revised to conform to the recent revision of the U. S. Pharmacopeia, and other statistical matter which makes it useful for reference when away from one's library.

Bind

THE BOSTON Medical and Surgical JOURNAL



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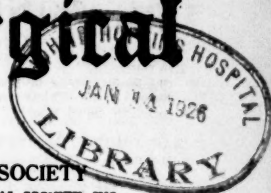
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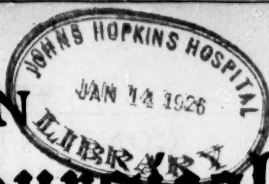
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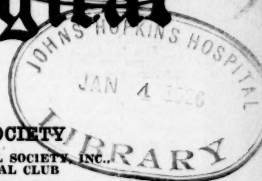
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